PART II

# SMPTE Journal<sup>®</sup>

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## Five-Year Index 1986–1990

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This is the twelfth cumulative index issued by the Society since its creation in 1916. The first index covered the period from July 1916 to July 1930. The Society's publication was called *Transactions* until January 1930, when the name was changed to *Journal of the SMPE*. In 1950, when the name of the Society became The Society of Motion Picture and Television Engineers, defining its expanding interest in television, the name of its publication became *Journal of the SMPTE*. On the 60th anniversary of the Society, in 1976, the title was shortened to *SMPTE Journal*. The first index included not only subject and author listings but also a synopsis of each paper. As the membership increased and the scope of the Society widened, it became infeasible to include material of this nature in the Index. Changes were made in each subsequent Index to accommodate a wider range of subject matter and a greater number of contributors.

In compiling the present Index, the editors have followed, in general, the plan of similar indexes, while endeavoring to anticipate the special requirements of members, students, and researchers. New subject categories have been added and larger categories divided to make this Index as useful as possible. The outline of Subject Categories on the opposite page reflects the Society's interests in many fields relying on communi-

cation techniques related to motion pictures and television.

In 1916, the confusion arising at home and abroad through want of cooperation and standardization prompted C. Francis Jenkins, inventor and scientist, to interest a dozen manufacturers and their technicians in the founding of a society which should have for its avowed purpose "advancement in the theory and practice of motion-picture engineering and the allied arts and sciences, the standardization of the mechanisms and practices employed therein, and the dissemination of scientific knowledge by publication."

The above statement appeared in the Preface to the first Index. Today, more than a half-century later, those aims and purposes are still valid. Beginning with a few dedicated founders, the Society's membership has increased to more than 9000, extended throughout the world. The early *Transactions* has grown to the present-day *Journal*; several technical books have been published; and more than 300 SMPTE Standards, Practices, and Guidelines are available through the Society.

#### SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS

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## **FIVE-YEAR INDEX 1986-1990**

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Each Journal technical paper and report is indexed under one or more of the following headings. Society announcements are found under Engineering, Sections Activities, and SMPTE Activities.

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- Re: SMPTE Members Receive BKSTS Citations, Aug. 1990, p. 684; corrected 99:860, Oct. 1990
- Re: Super Motion System, Sept. 1985, p. 897; corrected 95;584, May 1986
- Re: Sustaining members listing, Directory for Members, May 1986, Part II, p. 153; corrected 95:848, Aug. 1986

#### FIBER OPTICS

- Fiber Optics and Video: A Background, Benton, 97:546, July 1988
- The PFWM Fiber-Optic Transmission System for HDTV, *Morikura*, *Okamura*, and *Kubo*, **99:**565, July 1990
- Transmission of HDTV and Audio Signals over One Single-Mode Fiber, Natarajan, Venkatesan, Austin, Orost, and Forbes, 98:651, Sept. 1989

#### **FILM**

- See also Film Preservation/Restoration
- Applications of a Vari-Speed Processor for Film, Schmidt, 99:392, May 1990
- The Care and Handling of Hazardous Nitrate Film at UCLA's Unique Projection Facilities, Daily, 99:453, June 1990
- A Comparison of HDTV and Film—Overall Light Transfer Characteristics, Gaspar, Mahler, and Gabritsos, 98:556, Aug. 1989
- The Design of a Film Mix Theater for Video Applications, Miller, 97:133, Feb. 1988
- Digital Optical Sound on 35mm Motion-Picture Film, Wiles, Gasoi, and Zwaneveld,
- 99:899, Nov. 1990 Direct Introduction of Time Code on Film, Oudin, 98:123, Feb. 1989
- Eastman Color High-Speed Daylight Negative Films 5297 and 7297, Spakowsky, Norris, and Powell, 96:679, July 1987
- Eastman Color High-Speed Negative Film 7292, *Powell* and *Reinking*, 95:870, Sept. 1986
- Electronic Cinematography for Motion-Picture Film, *Mendrala*, **96**:1090, Nov. 1987
- Film/Electronic Interface, address, Young, 96:784, Aug. 1987
- Fujicolor Negative Films—F-Series, Noguchi, Urata, and Murai, 98:830, Nov. 1989
- Implementation of Time Code Using Datakode\* Magnetic Control Surface Film, Compton and Dimitri, 95:727, July 1986
- Interface of Motion-Picture Films and Video, Powell, Sehlin, Zavada, and Bogdanowicz, 95:614, June 1986
- New Fujicolor Intermediate Film, Yamaryo and Sato, 97:201, March 1988
- and Sato, 97:201, March 1988
  The Origins of 35mm Film as a Standard, Belton, 99:652, Aug. 1990
- Packaging Innovations for Motion-Picture Films, Griffen, 98:184, March 1989
- Producing Tints and Tones in Monochrome Films Using Modern Color Techniques, Case, 96:186, Feb. 1987
- SMPTE Study Group on 30-Frame Film Rate: Final Committee Report on the Feasibility of Motion-Picture Frame Rate Modification to 30 Frames/sec, *Di Giulio*, 97:404, May 1988
- The Stability of Kodak Professional Motion-Picture Film Bases, *Lee* and *Bard*, **97**:911, Nov. 1988

- Stability of Processed Cellulose Ester Photographic Films, Ram and McCrea, 97:474, June 1988
- A System Generating High-Resolution Animation to HDTV Film, Schneider, 95:796, Aug. 1986
- Telecine-Compatible Prints, Case, 98:451, June 1989
- Understanding Film Dynamics of Continuous-Motion Telecines, Soluk, 95:310, March 1986
- Variable-Resolution Rendering System Extends TV Animation Graphics to Film and Print Media, Lucht, 96:837, Sept. 1987

#### FILM FOR TELEVISION

- A Film Studio Looks at HDTV, Stumpf, 96:247, March 1987
- Interface of Motion-Picture Films and Video, Powell, Sehlin, Zavada, and Bogdanowicz, 95:614, June 1986

#### FILM PRESERVATION/RESTORATION

- The Archival Quality of Film Bases, Brems, 97:991, Dec. 1988
- The Care and Handling of Hazardous Nitrate Film at UCLA's Unique Projection Facilities, Daily, 99:453, June 1990
- An Experimental Quality Control Program for Printing Archival Films, Schou and Case, 96:1180, Dec. 1987
- Stability of Processed Cellulose Ester Photographic Films, Ram and McCrea, 97:474, June 1988

#### GENERAL

- Bibliography: New Technology in Video and Related Fields, *Mirabito* and *Morgenstern*, 95:239, Feb. 1986
- An Improved Sight-Line Displacement Analyzer and Its Application to TV Program Production, *Yamada* and *Fukuda*, **99:**16, Jan. 1990
- Locus Display of Moving Sports Players, Okui, Ohzeki, Shirata, and Murakami, 96:667, July 1987
- New Frontiers: The Next 15 Years, Sherlock, 96:1095, Nov. 1987
- Static Electricity: An Introduction to the Problems and Their Solutions in the Film and Television Industries, French and Hillyer, 95:562. May 1986
- The To-and-Fro Zone Plate (TFZP) Method for Observing Frequency Characteristics in Three Dimensions, Fukinuki and Hirano, 95:899, Sept. 1986

#### GRAPHICS/SPECIAL EFFECTS

- Component Compositing in Post-Production, Eyring, Hopkins, Rabinowitz, Hoffman, Brandel, Schmerler, and Wolzien, 95:884, Sept. 1986
- Computer Graphics: New Emphasis on Image Quality, Dalv, 95:645, May 1986
- Digital Effects Integration in a Video Switcher, Flora, 97:194, March 1988
- Dynamically Reconfigurable Video/Graphic Processor, Leonard, 95:637, May 1986
- A High-Speed Architecture for Image Computation, *Putnam*, *Lucht*, and *Davis*, **97**:464, June 1988
- The Multiresolution Dissolve, Stein and Hitchner, 97:977, Dec. 1988
- New Developments in Electronic Character Generation, Wood and MacClymont, 95:557, May 1986
- A New Method of Video Synthesis Developed by NHK, Iwata, Monjo, Niikura, and Tamura, 95:702, July 1986

- Painting in a Composite Frame Buffer, Ghazey, 95:998, Oct. 1986
- Real-Time Digital Compositing in Anti-Aliased Text and Graphics Generation, Chernyshov, Morrel, and Faison, 98:512, July 1989
- Real-Time Multilevel Digital Compositing: Quality Issues, Symes, 98:376, May 1989
- Sound Genie™—An Automated Digital Sound Effects Library System, Jaslowitz, D'Silva, and Zwaneveld, 99:386, May 1990
- A System Generating High-Resolution Animation to HDTV Film, Schneider, 95:796, Aug. 1986
- University of Calgary 3-D Computer Animation System, Wyvill, McPheeters, and Garbutt, 95:629, May 1986
- Variable-Resolution Rendering System Extends TV Animation Graphics to Film and Print Media, Lucht, 96:837, Sept. 1987

#### HIGH-DEFINITION TELEVISION (HDTV)

- See also Cameras, Television; Digital Technology; Monitors; Videotape Recording
- Advanced High-Definition 50 to 60-Hz Standards Conversion, Robert, Lamnabhi, and Lhuillier. 98:420, June 1989
- Bit-Rate Reduction in the Transmission of High-Definition Television Signals, Kishimoto, Sakurai, and Ishikura, 96:191, Feb. 1987
- Channel-Compatible 6-MHz HDTV Distribution Systems, Schreiber, Lippman, Netravali, Adelson, and Staelin, 98:5, Jan. 1989
- Chasing Rainbows: A Technical Overview, Galt and Pantuso, 98:179, March 1989
- Common Image Format for International Television Program Exchange, *Baron* and *Powers*, **99**:438, June 1990
- A Comparison of HDTV and Film—Overall Light Transfer Characteristics, Gaspar, Mahler, and Gabritsos, 98:556, Aug. 1989
- A Compatible High-Definition Television System Using the Noise-Margin Method of Hiding Enhancement Information, Schreiber, Adelson, Lippman, Rongshu, Monta, Popat, Sallic, Shen, Tom, Zangi, and Netravali, 98:873, Dec. 1989
- Considerations for Improvement of an HDTV Digital VTR, Eto, Umemoto, and Kawamura, 96:177, Feb. 1987
- A Cross-Referenced, Comprehensive Bibliography on High-Definition and Advanced Television Systems, 1971–1988, Freeman, 99:909, Nov. 1990
- A Digital Augmentation Approach to HDTV, Ng. 99:559, July 1990
- A Distribution Switcher for HDTV, Bytheway, 98:425, June 1989
- An Experimental Digital VTR for HDTV, Eto, Umemoto, Mita, and Nagahara, 95:215, Feb. 1986
- A Film Studio Looks at HDTV, Stumpf, 96:247, March 1987
- From 525/625 TV Lines to HDTV: The Evolution of Optical Requirements for TV Cameras, Angenieux and Corbasson, 99:734, Sept. 1990
- Gamma and Dynamic Range Needs for an HDTV Electronic Cinematography System, Methias, 96:840, Sept. 1987
- The HDC-300—A Second-Generation HDTV Camera, *Thorpe*, 99:364, May 1990 HD-PRO™: A New Global High-Definition
- HD-PRO<sup>M</sup>: A New Global High-Definition Video Production Format, *Iredale*, 98:439, June 1989
- HDTV and Today's Broadcasting World, Ono, 99:4, Jan. 1990
- HDTV: A Preview of the Future, Schneider, 97:209, March 1988

HDTV Bandwidth Reduction by Adaptive Subsampling and Motion-Compensation DATV Techniques, Thomas, 96:460, May 1987

**HDTV** Colorimetry and Gamma Considering the Visibility of Noise and Quantization Errors, Schäfer and Kauff, 96:822, Sept. 1987

HDTV Compatible Transmission System, Glenn and Glenn, 96:242, March 1987 HDTV Digital VTR, Thorpe, Yoshinaka, and

Tsujikawa, 98:738, Oct. 1989

An HDTV Downconverter for Post-Production, Thorpe, Matsumoto, and Kubota, 99:124, Feb. 1990

HDTV Electron Beam Recording, Thorpe and Ozaki, 97:833, Oct. 1988

High-Definition Television Production, Flaherty, 97:844, Oct. 1988

High-Definition Transmission, Signal Processing, and Display, Glenn and Glenn, 99:538, July 1990

High-Performance CCD Telecine for HDTV, Lees, Bernstein, Erhardt, Godden, Kennel, Kessler, Kurtz, Loveridge, Moore, and Sharman, 99:837, Oct. 1990

Improved Television Systems: NTSC and Beyond, Schreiber, 96:734, Aug. 1987

Improving NTSC to Achieve Near-RGB Performance, Faroudja and Roizen, 96:750, Aug. 1987

International Transmission of HDTV Signals, Kubota, Iwadate, Seo, and Matsumoto, 99:145, Feb. 1990

International Workshop on Signal Processing of HDTV, Baron, 97:927, Nov. 1988

The Kell Factor: Past and Present, Hsu, 95:206, Feb. 1986

Optical Videodisc for High-Definition Television by the MUSE, Toyama, Morita, Hioki, Ohta, Ishii, Ninomiya, Ohtsuka, Izumi, and Goushi, 95:25, Jan. 1986

The PFWM Fiber-Optic Transmission System for HDTV, Morikura, Okamura, and Kubo,

99:565, July 1990

Progressive Scanning: An EDTV Gateway to HDTV, Tichit, Tonge, and Lacotte, 99:824, Oct. 1990

A Proposal for a New High-Definition NTSC Broadcast Protocol, Iredale, 96:959, Oct.

Reducing Financial Aliasing in HDTV Production, Pantuso, 98:823, Nov. 1989

Reliable EDTV/HDTV Transmission in Low-Quality Analog Channels, Schreiber and Lippman, 98:496, July 1989

Report on SMPTE Standard for Signal Parameters-1125/60 High-Definition Production System, SMPTE 240M, 99:401, May

A Route to Higher-Definition Television with DBS, Forrest, 96:1087, Nov. 1987

The Shape of Screens to Come, Strain, 97:560, July 1988

Signal Processing for Compatible HDTV, Glenn and Glenn, 98:812, Nov. 1989 SMPTE Participates in HDTV Live Satellite

Transmission, 99:573, July 1990 Some European Perspectives on HDTV, Tonge

and Forrest, 98:868, Dec. 1989

Spectrum-Compatible High-Definition Television Transmission System, Bretl, Citta, Lee, and Fockens, 98:748, Oct. 1989

Super-Sensitive HDTV Camera Tube with the Newly Developed HARP Target, Kurashige, Egami, Tanioka, and Shidara, 97:538, July 1988

A System Generating High-Resolution Animation to HDTV Film, Schneider, 95:796, Aug. 1986

3XNTSC-A "Leapfrog" Production Standard for HDTV. Bretl. 98:173. March 1989 Toward a World Studio Standard for High-

Definition Television, Nasse and Chatel,

98:434, June 1989

Transmission of HDTV and Audio Signals over One Single-Mode Fiber, Natarajan, Venkatesan, Austin, Orost, and Forbes, 98:651, Sept. 1989

An Update on the Television and Film Aspects of HDTV, Streeter, 96:1108, Nov. 1987

#### HIGH-SPEED PHOTOGRAPHY

See Photography, High-Speed

#### HISTORY

The Development of CinemaScope by Twentieth Century-Fox, Belton, 97:711, Sept. 1988 Digital Television Recording-History and

Background, Baldwin, 95:1206, Dec. 1986 The History of Color Picture Tubes and Some Future Projections, Kaplan, 99:396, May

History of the Motion Picture, reprint, Jenkins, 98:188, March 1989

History of the SMPTE, address, Frayne, 97:103, Jan. 1988

The Kell Factor: Past and Present, Hsu, 95:206, Feb. 1986

The Origins of 35mm Film as a Standard, Belton, 99:652, Aug. 1990

Our Society-Its Beginning, Its Growth, Alden, 96:687, July 1987

Pioneers of Television-Charles Francis Jenkins, Abramson, 95:224, Feb. 1986

Producing Tints and Tones in Monochrome Films Using Modern Color Techniques, Case, 96:186, Feb. 1987

Standardization and Independence: The Founding Objectives of the SMPTE, Staiger, 96:532, June 1987

Television Camera Tubes—A History But Not Yet an Obituary, Neuhauser, 99:708, Sept. 1990

Theater Television: A History, Gomery, 98:120, Feb. 1989

Todd-AO: A History, Belton, 99:457, June 1990

Video Recording: A History, Stanton and Stanton, 96:253, March 1987

The Videotape Recorder: Its Evolution and the Present State of the Art of VTR Technology, Sugaya, 95:301, March 1986

#### IMAGE QUALITY

Bibliography: Psychophysics of Image Evaluation, Kolb, 99:594, Aug. 1989

The Computer as a Camera-Operation and Image-Quality Manager, Van Roessel and Tienkamp, 96:1079, Nov. 1987

Computer Graphics: New Emphasis on Image Quality, Daly, 95:645, May 1986

Cooperative Processing for Improved NTSC Chrominance/Luminance Separation, Strolle, 95:782, Aug. 1986

Graphic Scaling of Qualitative Terms, Jones and McManus, 95:1166, Nov. 1986

High Picture Quality Technologies for an S-VHS Portable VCR, Oku, Aizawa, Azuma, Okada, Hirose, and Ozawa, 98:636, Sept.

Image Quality: A Comparison of Photographic and Television Systems, reprint, Schade, 96:567, June 1987

Improved Television Systems: NTSC and Beyond, Schreiber, 96:734, Aug. 1987

Picture-Quality Criteria, Error Statistics, and Error Correction for the D-1 Format DVTR, Watney, 95:1222, Dec. 1986

Quantitative Evaluation of Eye Movements as Judged by Sight-Line Displacements, Yamada and Fukuda, 95:1230, Dec. 1986

Subjective Image Quality as a Function of Viewing Distance, Resolution, and Picture Size, Westerink and Roufs, 98:113, Feb.

#### IMAGE SENSORS

See Camera Equipment, Image Sensors

#### INTERFACE

The ESbus: Its Use Within the BBC, Gleave, 97:556, July 1988

Potential for Digital and Optical Video in Broadcast Facility Distribution Systems, Wilson, 97:616, Aug. 1988

#### LABORATORY

Applications of a Vari-Speed Processor for Film, Schmidt, 99:392, May 1990

The Audio Side of Videocassette Duplication-A Tutorial, Brown, 96:230, March 1987

Control and Prediction of Film Density and Color Balance in the Developing Process, Kjellström, 99:191, March 1990

Current Silver Recovery Techniques, Degenkolb, 97:630, Aug. 1988

The Electronic Laboratory™-A Working Reality, Cohen, 97:915, Nov. 1988

An Experimental Quality Control Program for Printing Archival Films, Schou and Case, 96:1180, Dec. 1987

The Film Facit™ 3000H Color Film Analyzer, Hoadlev, 97:830, Oct. 1988

The HFC Fully Automated Proofing Printer, Teitelbaum and Levine, 97:139, Feb. 1988

Improved Particulate Contamination Control for Solutions Used for the Processing of Photographic Materials, Janas, 99:32, Jan. 1990

Modernization and Computerization of the Silver-Recovery Operation in a High-Volume Laboratory, Baptista, Buttram, Roberts, and Wary, 96:745, Aug. 1987

Persulfate/Quinone Bleach-Environmental and Economic Aspects, Keiler and Pollakowski, 95:220, Feb. 1986

The 300D Digital Video Color Film Analyzer: A Logical Use of the Best of Today's Technologies, Teitelbaum, Arbeeny, and Levine, 99:1008, Dec. 1990

The Use of 1,1,1-Trichloroethane Chlorinated Solvent for Cleaning Motion-Picture Film, Spencer, 95:733, July 1986

The Zoom Aerial 65mm Optical Printer (ZAP) System, Edlund, Grafton, West, and Wilcox, 96:674, July 1987

#### LENSES

See Camera Equipment, Lenses

#### LETTERS TO THE EDITOR

Re: The Use of 1,1,1-Trichloroethane Chlorinated Solvent for Cleaning Motion-Picture Film, Spencer, July 1986, p. 733; letter and author reply, 96:1024, Oct. 1987

#### LIGHTING/LAMPS

The Application of Electronic Ballasting with Medium Arc Metal Halide Lamps, Henry, 98:754, Oct. 1989

Electronics in Discharge Lighting, Donkin, 97:638, Aug. 1988

HMI Lighting for High-Speed Photographic Applications, Kiankhooy, 98:896, Dec. 1989 New Single-Ended Metal-Halide Lamps for ENG, EFP, and Film Production, Henry and Lewandowski, 99:644, Aug. 1990

#### MONITORS/DISPLAYS

Challenges to the Development of a Standardized Professional Studio Color-Picture Monitor, Zavada, 97:703, Sept. 1988

Digital Intelligence in Professional Broadcast Monitors, Verbrugge, Piepers, and Lietaert, 97:484, June 1988

High-Definition Transmission, Signal Processing, and Display, Glenn and Glenn, 99:538, July 1990

Instrumentation for Monitor Calibration, Kane, 99:744, Sept. 1990

Large-Screen HDTV Monitor Development, Thorpe, Miura, and Chikuma, 99:620, Aug. 1990

Monitoring Video Pictures in Different Formats and Standards, Verbrugge, 98:880, Dec. 1989

#### MOTION PICTURES

See also Cinematography

History of the Motion Picture, reprint, Jenkins, 98:188, March 1989

Major Motion-Picture Production Standards, Kennell, Pytlak, Sehlin, and Uhlig, 97:985, Dec. 1988

The Motion-Picture Industry and Technology in the USSR, Chernoyarsky and Komar, 99:214, March 1990

The Science of Motion Pictures, address, Wise, 95:117, Jan. 1986

Texture and Depth Enhancement for Motion Pictures and Television, Mayhew, 99:809, Oct. 1990

#### MOUNTINGS

See Camera Equipment, Mountings

#### NEW PRODUCTS

Brief descriptions of recently announced new products are published in each issue of the Journal. Items contained in the New Products column are indexed in the Annual Indexes

#### NEWS

Brief news items concerning awards, education, companies, and people related to SMPTE and the industry are published in each issue of the *Journal* and indexed in the Annual Indexes

#### OBITUARIES

Almen, John S., 97:1016, Dec. 1988
Baer, John G., 98:852, Nov. 1989
Barlow, Michael, 99:685, Aug. 1990
Benson, K. Blair, 99:944, Nov. 1990
Bessire, Jean-Jacques, 97:774, Sept. 1988
Best, Gerald M., 99:686, Aug. 1990
Boudouris, Angelo, 99:686, Aug. 1990
Bragg, Herbert E., Alden, 97:230, March 1988
Brewer, Daniel R., 99:475, June 1990
Brown, George H., 97:418, May 1988
Bruch, Walter, Weinschenk-Tabernero, 99:685, Aug. 1990
Buxton, Allan R. R., 96:1216, Dec. 1987

99:685, Aug. 1990
Buxton, Allan R. R., 96:1216, Dec. 1987
Carleton, Charles H., 99:686, Aug. 1990
Cooper, William L., Jr., 97:150, Feb. 1988
Corbin, Robert M., 99:1036, Dec. 1990
Dahlin, Ellis K., 98:140, Feb. 1989
Dent, Ellsworth C., 98:140, Feb. 1989
Duke, Vernon J., 97:348, April 1988
Dupy, Olin L., 95:1184, Nov. 1986
Edgerton, Harold E., 99:338, April 1990
Einhaus, Clarence G., 96:710, July 1987
Evans, Terry F. "Buck," 99:476, June 1990
Fisher, Joseph F., 97:418, May 1988
Flaherty, Joseph A., Sr., 97:348, April 1988

Flory, John A., 97:150, Feb. 1988 Flynn, Thomas G., 97:1016, Dec. 1988 Frazee, James M., 99:475, June 1990 Gavnor, Albert N., 98:611, Aug. 1989 Gopal, Krishna, 95:1286, Dec. 1986 Graf, Edward A., 95:1094, Oct. 1986 Greenspan, Henry S., 99:476, June 1990 Gundelfinger, Alan M., 98:394, May 1989 Hagen, William J., 99:476, June 1990 Halstead, William S., 97:414, May 1988 Hanson, Wesley T., Jr., 96:792, Aug. 1987 Hariu, Walter R., 97:230, March 1988 Hartshorne, Robert W., 97:1016, Dec. 1988 Hawkins, Allan W., 99:476, June 1990 Heppberger, Chester E., 95:1184, Nov. 1986 Hilliard, John K., 98:611, Aug. 1989 Hollingsworth, Percy M., 99:476, June 1990 Horn, Ted H., 99:475, June 1990 Hotchkiss, Calvin M., 98:46, Jan. 1989 Hughes, George E., 99:476, June 1990 Jirka, Howard F., 98:611, Aug. 1989 Johnson, Robert E., 98:394, May 1989 Kay, Henry, 99:1036, Dec. 1990 Kell, Ray Davis, Abramson, 96:431, April

Kinzle, Harold W., 96:60, Jan. 1987 Kraszna-Krausz, A., 99:475, June 1990 Krause, Edward B., 97:774, Sept. 1988 Kufluk, Andrew, 95:1286, Dec. 1986 Livadary, John Paul, 96:710, July 1987 Lumkin, Alfred W. (Tony), Aldred, 95:250, Feb. 1986

Magoonis, James J., 99:686, Aug. 1990 Malkames, Donald, 96:208, Feb. 1987 Matthews, Glenn E., 99:1036, Dec. 1990 Maurer, John A., 97:770, Sept. 1988 Mautner, Robert S., 99:476, June 1990 Millar, Julian Z., 98:46, Jan. 1989 Munnings, Burton, 97:1016, Dec. 1988 Nemec, Boyce, 97:1014, Dec. 1988 Nishimura, Ryosuke, 99:476, June 1990 Oulmann, Rene J., 98:394, May 1989 Prisament, Norman T., 95:516, April 1986 Ray, Reed H., 97:414, May 1988 Reeves, Hazard E., 96:1032, Oct. 1987 Reichard, Edward H., 97:772, Sept. 1988 Roizen, Joseph, 98:315, April 1989 Rose, Robert V., 99:476, June 1990 Roudabush, Byron S., 97:500, June 1988 Rupe, Roger H., 99:686, Aug. 1990 Ryan, John F. G., 99:476, June 1990 Scheib, Harold A., 96:58, Jan. 1987 Scoville, Ray R., 99:944, Nov. 1990 Shaner, Vaughn C., 98:1016, Dec. 1988 Soulé, Claude, 99:475, June 1990 Szabo, William, 97:418, May 1988 Takayanagi, Kenjiro, French, 99:862, Oct. 1990

Tennant, Thomas K., 99:476, June 1990 de Tonnancour, Andre G., 99:476, June 1990 Tuckerman, Lucien P., 99:476, June 1990 Tuttle, Harris B., Sr., 97:500, June 1988 Unrath, Robert, 97:1016, Dec. 1988 Varossieau, Jan W., 98:394, May 1989 Watson, Waldon O., Stumpf, 96:58, Jan. 1987 Welsh, Steven, 99:1036, Dec. 1990 Whitehead, Jack, 99:686, Aug. 1990

#### OPTICAL DISK

See Videodisc

#### ORGANIZATIONS, OTHER

See SMPTE Activities, Other Organizations

#### OUTSIDE BROADSCAST (OB) VEHICLES

The Motorcycle Radio-Camera System, Kuma, Idenuma, Murakami, Takenoshita, and Yoshitake, 97:130, Feb. 1988

#### PHOTOGRAPHY, HIGH-SPEED

HMI Lighting for High-Speed Photographic Applications, Kiankhooy, 98:896, Dec. 1989 A New High-Speed Camera System for Broadcast Use—The Action Analyzer, Fujita, Andoh, Mitani, Sugahara, and Fujiwara,

#### PICKUP TUBES

See Camera Equipment, Pickup Tubes

#### PICTURE QUALITY

99:820, Oct. 1990

See Image Quality

#### PICTURE TUBES

The History of Color Picture Tubes and Some Future Projections, *Kaplan*, **99:**396, May 1990

#### PRODUCTION/POST-PRODUCTION

See also Editing

Bibliography: Video Production Technologies, Stanton and Stanton, 96:762, Aug. 1987

Chasing Rainbows: A Technical Overview, Galt and Pantuso, 98:179, March 1989

Color-Correction Techniques—Analog and Digital, Acker, 95:287, March 1986
Communications between Analog Component

Production Centers, *Dalton* and *Malcher*, 97:606, Aug. 1988

Component Compositing in Post-Production, Eyring, Hopkins, Rabinowitz, Hoffman, Brandel, Schmerler, and Wolzien, 95:884, Sept. 1986

Controlling Audio Mixers in Video Post-Production, Patten, 97:699, Sept. 1988

The Design of a Film Mix Theater for Video Applications, Miller, 97:133, Feb. 1988

Digital Audio Post-Production: Sound Editing Transformed, Wolvington, 96:34, Jan. 1987 Digital Production Switchers, Vallee, Artigalas, and Favreau, 95:295, March 1986

Edit Film/Conform Tape (EFLM/CTAP)— The Filmmaker's Video System, *Becker*, **95**:1026, Oct. 1986

Electronic Post-Production for Film and Vidcotape—An Update, Schneider, 96:1189, Dec. 1987

Experience with an Experimental Digital Component Video Production Facility, *Dalton* and *Green*, **98**:348, May 1989

Evolution during Revolution, Gougeon, 96:684, July 1987

A Film Studio Looks at HDTV, Stumpf, 96:247, March 1987

An HDTV Downconverter for Post-Production, Thorpe, Matsumoto, and Kubota, 99:124, Feb. 1990

HD-PRO™: A New Global High-Definition Video Production Format, *Iredale*, 98:439, June 1989

High-Definition Television Production, Flaherty, 97:844, Oct. 1988

Implementation of Time Code Using Datakode® Magnetic Control Surface Film, Compton and Dimitri, 95:727, July 1986

An Improved Sight-Line Displacement Analyzer and Its Application to TV Program Production, *Yamada* and *Fukuda*, **99**:16, Jan. 1990

Interface of Motion-Picture Films and Video, Powell, Sehlin, Zavada, and Bogdanowicz, 95:614, June 1986

Major Motion-Picture Production Standards, Kennell, Pytlak, Sehlin, and Uhlig, 97:985, Dec. 1988

The Montage: A New Approach to Editing Feature Films, Schuler, 95:811, Aug. 1986 Multilevel Compositing in the Digital Domain, Symes, 97:613, Aug. 1988 The Multiresolution Dissolve, Stein and Hitchner, 97:977, Dec. 1988

An Optical Routing System for Tomorrow's Television Studio Centers, Oliphant, Marsden, and Zubrzycki, 96:660, July 1987

Parallel Component Analog Video Timing and Amplitude Considerations, Acker, 96:654, July 1987

Production and Post-Production Experience with ½-in. Camera Recorders in the CBC, Kaiser and Quinn, 96:28, Jan. 1987

A Proposed Universal Signal-Processing System, Murakami, Enami, and Yagi, 96:527, June 1987

Reducing Financial Aliasing in HDTV Production, *Pantuso*, **98**:823, Nov. 1989

Scene-by-Scene Color Correction: The Next Generation, *Orsburn*, **95**:790, Aug. 1986 The SMPTE Hollywood Section/USC Semi-

nar on Electronic Post-Production for Film and Videotape, Schneider, 96:692, July 1987

SMPTE/USC Spring Symposium on Image Manipulation, Schneider, 95:816, Aug. 1986

SoundDroid: A New System for Electronic Post-Production of Sound, Borish, Moorer, and Nye, 95:567, May 1986

Television: The Challenge of the Future, Flaherty, 96:846, Sept. 1987

3XNTSC—A "Leapfrog" Production Standard for HDTV, Bretl, 98:173, March 1989 The Video Computer: Image Computing in the

Studio, Smith, 97:207, March 1988
The World's First All-Digital Television Production, Oudin, 96:11, Jan. 1987

#### PROGRAM EXCHANGE

Common Image Format for International Television Program Exchange, *Baron* and *Powers*, **99**:438, June 1990

#### PROGRESS

See SMPTE Activities, Progress Reports

#### PROJECTION

The Care and Handling of Hazardous Nitrate Film at UCLA's Unique Projection Facilities, Daily, 99:453, June 1990

Front-Projection Screens: Properties and Applicatons, *Hines*, **95**:903, Sept. 1986

 Front Projection: Tessellating the Screen, Erland, 95:278, March 1986

#### PROMPTERS

A Portable Prompter System Equipped with a Liquid Crystal Display, Seo and Kuwata, 99:200, March 1990

#### **PSYCHOPHYSICS**

Bibliography: Psychophysics of Image Evaluation, Hoffner, ed., 98:594, Aug. 1989

Flicker-Free Field-Sequential Stereoscopic TV System and Measurement of Human Depth Perception, *Isono* and *Yasuda*, 99:136, Feb. 1990

Graphic Scaling of Qualitative Terms, Jones and McManus, 95:1166, Nov. 1986

Quantitative Evaluation of Eye Movements as Judged by Sight-Line Displacements, *Ya-mada* and *Fukuda*, 95:1230, Dec. 1986

Subjective Image Quality as a Function of Viewing Distance, Resolution, and Picture Size, Westerink and Roufs, 98:113, Feb. 1989

Texture and Depth Enhancement for Motion Pictures and Television, Mahyew, 99:809, Oct. 1990

Viewer Stress from Audio/Visual Sync Problems, Cooper, 97:140, Feb. 1988

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Is Standardization Obsolete?, address, Streeter, 96:79, Jan. 1987

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The 300D Digital Video Color Film Analyzer: A Logical Use of the Best of Today's Technologies, *Teitelbaum*, *Arbeeny*, and *Levine*, 99:1008. Dec. 1990

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Measurement Methods and Diagnostic Techniques for the Digital Television Tape Recorder (DTTR), Hedtke, 95:878, Sept. 1986

Mechanical Considerations in the Design of a Composite Digital VTR, Kaku, Ozaki, Yokoo, Ozawa, Niguchi, Ono, Ogiro, and Yokota, 98:568, Aug. 1989

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A ½-In. Cassette HDTV VTR, Kizu, Endo, and Ogi, 99:891, Nov. 1990

Optimization of the D-1 DTTR Standard by Simulation Techniques, *Mester*, **95**:1017, Oct. 1986

Picture-Quality Criteria, Error Statistics, and Error Correction for the D-1 Format DVTR, Watney, 95:1222, Dec. 1986

The Potential of a Modified 8mm Consumer Format in ENG, Felix and Coleman, 95:705, July 1986

Product Impelmentation of the 4:2:2 Component Digital Format, *Chan* and *Eguchi*, **96**:949, Oct. 1987

Progress Report on Recent Developments on One Manufacturer's <sup>1</sup>/<sub>4</sub>-in. ENG Recorder, Kirino, Tominaga, Kasai, Ogihara, Kawamura, and Inatsu, 95:20, Jan. 1986

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A Review of the Signal Format Specification for the 4:2:2 Component Digital VTR, Wilkinson, 96:1166, Dec. 1987

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The User Requirements for the 4:2:2 Component Digital VTR, Nicholls, 95:1139, Nov. 1986

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Video Recording: A History, Stanton and Stanton, 96:253, March 1987

Video Recording Formats in Transition, Sadashige, 98:25, Jan. 1989

The Videotape Recorder: Its Evolution and the Present State of the Art of VTR Technology, Sugaya, 95:301, March 1986

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Adelson, E. H.; Lippman, A. B.; Netravali, A. N.; Schreiber, William F.; and Staelin, D. H., Channel-Compatible 6-MHz HDTV Distribution Systems, 98:5, Jan. 1989

; Lippman, A. B.; Monta, P.; Netravali, A. N.; Popat, A.; Rongshu, Gong; Sallic, H.; Shen, P.; Schreiber, William F.; Tom, A.; and Zangi, K., A Compatible High-Definition Television System Using the Noise-Margin Method of Hiding Enhancement Information, 98:873, Dec. 1989

; Lippmann, A. B.; Netravali, A. N.; Neuman, W. R.; and Schreiber, William F., Single-Channel Backward-Compatible EDTV

Systems, 98:14, Jan. 1989

Adeyeye, Aderemi A., and Richer, Mark S., Development and Performance of the PBS VBI Data Delivery System, 97:470, June 1988

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Alden, Alex E., Our Society—Its Beginning, Its Growth, 96:687, July 1987

Anderson, Walter; Gray, Joel E.; Harshbarger, John H.; Lisk, Kenneth G.; Schwenker, Ronald; and Uzenoff, Robert A., Acceptance and Use of the SMPTE Medical Diagnostic Imaging Test Pattern for Television Monitors and Hard-Copy Recording Cameras, 99:1001, Dec. 1990

Andoh, Fumihiko; Fujita, Yoshihiro; Fujiwara, Masao; Mitani, Kohji; and Sugahara, Masayuki, A New High-Speed Camera System for Broadcast Use—The Action Analyzer, 99:820, Oct. 1990

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Arbeeny, Al; Levine, Mark; and Teitelbaum, Harry, The 300D Digital Video Color Film Analyzer: A Logical Use of the Best of Today's Technologies, 99:1008, Dec. 1990 Aroyo, Izi; Dragostinov, Todor; Mantchev, Nikola; Nedyalkov, Emanuil; Popova, Eugenia; Stankov, Angel; and Zhivkov, Plamen, Transmission of Additional Information in the Active Television Lines, 95:814, Aug. 1986

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Austin, M. D.; Forbes, C. G.; Natarajan, P. S.; Orost, J.; and Venkatesan, P. S., Transmission of HDTV and Audio Signals over One Single-Mode Fiber, 98:651, Sept. 1989

Azerad, Michael S.; Dabby, Joseph; Pley, John; and Zwaneveld, Ed, The Brain™: A Multi-Axis, Location/Studio Camera/Subject, Robotic Motion-Control System, 98:575, Aug. 1989

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——, Enhancing Television—An Evolving Scene, 97:374, May 1988

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Bard, Charleton C., and Lee, William E., The Stability of Kodak Professional Motion-Picture Film Bases, 97:911, Nov. 1988

Barnathan, Julius, address, 23rd Television Conference, 98:313, April 1989

Baron, Stanley N., and Powers, Kerns H., Common Image Format for International Television Program Exchange, 99:438, June 1990
—, International Workshop on Signal Pro-

cessing of HDTV, 97:927, Nov. 1988
——, 1988 Progress Report: Engineering Report, 98:237, April 1989

——, 1989 Progress Report: Engineering Report. 99:261, April 1990

——, Planning for Future Standards, address, 99:81, Jan. 1990

Becker, Sherwin H. (Si), Edit Film/Conform Tape (EFLM/CTAP)—The Filmmaker's Video System, 95:1026, Oct. 1986

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—, Report on Meeting of ISO/TC36— Cinematography, 97:143, Feb. 1988

—, and Robinson, Lynette, Sections and Engineering Training Seminar, 96:786, Aug. 1987

----, and Robinson, Lynette, Sections and Engineering Training Seminar, 97:648, Aug. 1988

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Bernstein, L.; Erhardt, H.; Godden, R.; Kennel, G.; Kessler, D.; Kurtz, A.; Lees, R.; Loveridge, J.; Moore, L.; and Sharman, R., High-reformance CCD Telecine for HDTV, 99:837, Oct. 1990

Berry, Max, and Thomas, Robert, New Technology and the Broadcaster, 96:971, Oct. 1987

Blackburn, R. J., and Hessler, Paul, DS3-Rate (45 Mbit/sec), Customer-Controllable, Multipoint Networks for Broadcast Television Distribution/Collection, 97:687, Sept. 1988

Blasko, Edward J., 1985 Progress Report: Motion Pictures, 95:413, April 1986

Bleidt, Robert L., A Digital Velocity and Amplitude Error-Correction System for Component Time Base Correctors, 97:901, Nov. 1988

Bogdanowicz, Mitchell J.; Powell, Steven J.; Sehlin, Richard C.; and Zavada, Roland J., Interface of Motion-Picture Films and Vidco. 95:614, June 1986

Borish, Jeffrey; Moorer, James A.; and Nye, Peter, SoundDroid: A New System for Electronic Post-Production of Sound, 95:567, May 1986

Bradshaw, David J., Fault Diagnosis in the Digital Studio, 98:164, March 1989

Brainard, R. C., and Netravali, A. N., Digital Television Recording at 45 Mbits/Sec, 96:4, Jan. 1987

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Brandel, Robert; Eyring, Ken; Hoffman, Shel; Hopkins, Bryan; Rabinowitz, David; Schmerler, David; and Wolzien, Thomas, Component Compositing in Post-Production, 95:884, Sept. 1986 Brems, Karel A. H., The Archival Quality of

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Brush, Richard; Engberg, E.; Lemoine, M.; Magnusson, S.; Morrison, F.; Rodal, D.; Ryan, D.; and Watney, J., The Composite Digital Format and Its Applications, 96:934, Oct. 1987

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tion Pictures, 97:268, April 1988

, 1988 Progress Report: Motion Pictures, 98:241, April 1989

, 1989 Progress Report: Motion Pictures, 99:264, April 1990

Butler, Robert J., Time for Two: A Video TDM System that Maintains Spatial and Temporal Resolution for Two Pictures from Different Uplinks, 99:209, March 1990

Buttram, Darren; Roberts, Marvin; Baptista, John L.; and Wary, John C., Modernization and Computerization of the Silver-Recovery Operation in a High-Volume Laboratory, 96:745, Aug. 1987

Bytheway, David L., A Digital Audio Distribution Switcher System, 99:804, Oct. 1990

, A Distribution Switcher for HDTV, 98:425, June 1989

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Carr, S.; Kaminaga, K.; Murakami, Y.; Berger, Paul; and Suda, M., Time Compression/Expansion with D-2 Composite Digital Recording, 99:381, May 1990

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Cavanagh, Tom, and Field, Keith, A Study of Maintenance Requirements for Component Level Diagnostics in Digital Equipment, 97:400, May 1988

, Type-C Format Audio Level Interchange Problems in Broadcast Operations: A Report from the SMPTE Study Group on Type-C Audio Levels on Interchange, 96:851, Sept. 1987

Cayet, A.; Grimaldi, J. L.; and Nasse, D., An Experimental All-Digital Television Center, 95:13, Jan. 1986

Chakraborty, D., and Elrefaie, A. F., Differential Gain and Differential Phase in Satellite TV Transmission, 95:1150, Nov. 1986

Chan, Curtis, and Eguchi, Takeo, Product Implementation of the 4:2:2 Component Digital Format, 96:949, Oct. 1987

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and Nasse, Dominique, Toward a World Studio Standard for High-Definition Television, 98:434, June 1989

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Connolly, William G., Changing Times, Changing Technology, address, 130th Technical Conference, 98:63, Jan. 1989

Cooper, J. Carl. Video-to-Audio Synchrony Monitoring and Correction, 97:695, Sept. 1988

, Viewer Stress from Audio/Visual Sync Problems, 97:140, Feb. 1988

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Daily, Jess, The Care and Handling of Hazardous Nitrate Film at UCLA's Unique Projection Facilities, 99:453, June 1990

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; Newport, Derek J.; and Vavasour, Eric J., Comparative Assessment of Video Camera Color Reproduction Using Matchman Mk II, 99:884, Nov. 1990

, and Green, Norman W., Experience with an Experimental Digital Component Video Production Facility, 98:348, May

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, and Ike, Kazuo, SMPTE Type D-1 Cassette Design Considerations, 95:874, Sept. 1986

Davies, Kenneth P., The Digital Television Tape Recorder-Audio and Data Recording Aspects, 95:4, Jan. 1986

, Formatting and Coding the Audio in the DTTR. 96:171, Feb. 1987

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Dickens, Bernard L., The CBS Experience with Small-Format Videotape and the Implications for the Future, 97:13, Jan. 1988

Dienhart, Richard; Ikeda, Sadayuki; Kamata, Takao; Kohno, Akiyoshi; Shimizu, Mikio; and Yamamoto, Setsuo, Recent Development of a Broadcast-Quality CCD Camera, 95:1158, Nov. 1986

Dieterich, Charles B.; Isnardi, Michael A.; and Smith, Terrence R., Advanced Compatible Television: A Progress Report, 98:484, July

DiGiulio, Edmund M., SMPTE Study Group on 30-Frame Film Rate: Final Committee Report on the Feasibility of Motion-Picture Frame Rate-Modification to 30 Frames/ Sec, 97:404, May 1988

Dimitri, Dimitri S., and Compton, D. M. James, Implementation of Time Code Using Datakode® Magnetic Control Surface Film, 95:727, July 1986

Doi, Nobukazu; Eto, Yoshizumi; Izumita, Morishi; and Mita, Seiichi, Adaptive Equaliza-

tion Techniques for Digital Video Recording Systems, 97:8, Jan. 1988

Donkin, Adrian, Electronics in Discharge Lighting, 97:638, Aug. 1988

Dragostinov, Todor; Mantchev, Nikola; Nedyalkov, Emanuil; Popova, Eugenia; Stankov, Angel; Aroyo, Izi; and Zhivkov, Plamen, Transmission of Additional Information in the Active Television Lines, 95:814, Aug. 1986

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Dubois, Eric, and Fortier, Michel, Implementation of a Programmable System for Real-Time Digital Video Processing, 98:760, Oct.

, and Schreiber, William F., Improvements to NTSC by Multidimensional Filtering, 97:446, June 1988

; Sabri, Shaker; and Lemay, Denis, A Modular Digital Video Coding Architecture for Present and Advanced TV Systems, 98:504. July 1989

DuBoyce, Anthony, A Time Code User-Bit Hierarchy for Multidisciplinary Applications, 99:993, Dec. 1990

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, 127th Technical Conference, opening address, 95:101, luncheon address, :116, Jan. 1986

——, opening address, 128th Technical Conference, 96:77, Jan. 1987

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\_\_\_\_\_, The 17th UNIATEC Congress, 99:38, Jan. 1990

——, SMPTE Delegation Visits the People's Republic of China: By President Eady and Delegates, 95:37, Jan. 1986

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Egami, N.; Ehata, S.; Kurashige, M.; Okazaki, S.; Oku, K.; Tanioka, K.; and Yamagishi, T., High-Sensitivity HDTV Camera Tube with a HARP Target, 99:723, Sept. 1990

; Kurashige, M.; Tanioka, K.; and Shidara, K., Super-Sensitive HDTV Camera Tube with the Newly Developed HARP Target, 97:538, July 1988

Eguchi, Takeo, and Chan, Curtis, Product Implementation of the 4:2:2 Component Digital Format, 96:949, Oct. 1987

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Ehata, S.; Kurashige, M.; Okazaki, S.; Oku, K.; Tanioka, K.; Egami, N.; and Yamagishi, T., High-Sensitivity HDTV Camera Tube with a HARP Target, 99:723, Sept. 1990

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; Murakami, Keinosuke; and Yagi, Nobuyuki, Real-Time Video Signal Processor, 96:1158, Dec. 1987

Endo, Naoki; Kizu, Shigeo; and Ogi, Keisuke, A ½-In. Cassette HDTV VTR, 99:891, Nov. 1990

Engberg, E.; Lemoine, M.; Magnusson, S.; Morrison, F.; Rodal, D.; Ryan, D.; Brush, R.; and Watney, J., The Composite Digital Format and Its Applications, 96:934, Oct. 1987

Erhardt, H.; Godden, R.; Kennel, G.; Kessler, D.; Kurtz, A.; Lees, R.; Loveridge, J.; Moore, L.; Bernstein, L.; and Sharman, R., High-Performance CCD Telecine for HDTV, 99:837, Oct. 1990

Erland, Jonathan, Front Projection: Tessellating the Screen, 95:278, March 1986

Eto, Yoshizumi; Izumita, Morishi; Doi, Nobukazu; and Mita, Seiichi, Adaptive Equalization Techniques for Digital Video Recording Systems, 97:8, Jan. 1988 ——; Kawamura, Toshiaki; and Umemoto, Masuo, Considerations for Improvement of an HDTV Digital VTR, 96:177, Feb. 1987

----; Mita, Seiichi; Nagahara, Shusaku; and Umemoto, Masuo, An Experimental Digital VTR for HDTV, 95:215, Feb. 1986

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—, and Roizen, Joseph, A Progress Report on Improved NTSC, 98:817, Nov. 1989

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—, Isn't This Where We Came in? address, 22nd Television Conference, 97:333, April 1988

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Forbes, C. G.; Natarajan, P. S.; Orost, J.; Austin, M. D.; and Venkatesan, P. S., Transmission of HDTV and Audio Signals over One Single-Mode Fiber, 98:651, Sept. 1989

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Frame, Wayne W., Minimum Resolvable and Minimum Detectable Contrast Prediction for Monochrome Solid-State Imagers, 96:454, May 1987

Franken, Ad, and Rao, N. V., Television Camera Tubes and Solid-State Sensors for Broadcast Applications, 95:799, Aug. 1986

Frayne, John G., History of the SMPTE, address, 97:103, Jan. 1988

Freeman, John, compiler, A Cross-Referenced, Comprehensive Bibliography on High-Definition and Advanced Television Systems, 1971-1988, 99:909, Nov. 1990 French, E. F., and Hillyer, F. C. H., Static Electricity: An Introduction to the Problems and Their Solutions in the Film and Television Industries, 95:562, May 1986

French, Maurice L., opening address, 131st Technical Conference, 99:78, Jan. 1990

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——, President's Message, 98:74, Jan. 1990
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——, 1987 Progress Report: Foreword,

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——, The SMPTE in an Age of Transition,

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Fujimaki, Y.; Isesaka, K.; Kobyashi, K.; Leader, S.; Nakamura, T.; and Takahashi, S., The Application of High-Coercivity Cobalt Iron Oxide Tape for Digital Video Recording, 98:168, March 1989

Fujita, Yoshihiro; Fujiwara, Masao; Mitani, Kohji; Andoh, Fumihiko; and Sugahara, Masayuki, A New High-Speed Camera System for Broadcast Use—The Action Analyzer, 99:820, Oct. 1990

Fujiwara, Masao; Andoh, Fumihiko; Fujita, Yoshihiro; Mitani, Kohji; and Sugahara, Masayuki, A New High-Speed Camera System for Broadcast Use—The Action Analyzer, 99:820, Oct. 1990

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Fukuda, Tadahiko, and Yamada, Mitsuho, An Improved Sight-Line Displacement Analyzer and Its Application to TV Program Production, 99:16, Jan. 1990

, and Yamada, Mitsuho, Quantitative Evaluation of Eye Movements as Judged by Sight-Line Displacements, 95:1230, Dec. 1986

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Gabritsos, George; Gaspar, James; and Mahler, Henry, A Comparison of HDTV and Film— Overall Light Transfer Characteristics, 98:556, Aug. 1989

Galt, John, and Pantuso, Charles, Chasing Rainbows: A Technical Overview, 98:179, March 1989

Garbutt, Rick; McPheeters, Craig; and Wyvill, Brian, University of Calgary 3-D Computer Animation System, 95:629, June 1986

Gardner, Larry J., and Scoggins, David H., A Closed-Loop Digital Video Editing System, 99:634, Aug. 1990

Gasoi, Frederick; Wiles, Syd; and Zwaneveld, Ed, Digital Optical Sound on 35mm Motion-Picture Film, 99:899, Nov. 1990

Gaspar, James; Gabritsos, George; and Mahler, Henry, A Comparison of HDTV and Film— Overall Light Transfer Characteristics, 98:556, Aug. 1989

Gershman, Larry, Television: A Practical View, address, 95:111, Jan. 1986

Ghazey, Mick, Painting in a Composite Frame Buffer, 95:998, Oct. 1986

Gillard, C. H., Error-Correction Strategy for the New Generation of 4:2:2 Component DVTRs, 96:1173, Dec. 1987

Gleave, Michael M., The ESbus: Its Use Within the BBC, 97:556, July 1988 Glenn, Karen G., and Glenn, William E., HDTV Compatible Transmission System, 96:242, March 1987

, and Glenn, William E., High-Definition Transmission, Signal Processing, and Display, 99:538, July 1990

and Glenn, William E., Signal Processing for Compatible HDTV, 98:812, Nov.

Glenn, William E., and Glenn, Karen G., HDTV Compatible Transmission System, 96:242, March 1987

, and Glenn, Karen G., High-Definition Transmission, Signal Processing, and Display, 99:538, July 1990

, and Glenn, Karen G., Signal Processing for Compatible HDTV, 98:812, Nov. 1989 Godber, Alan S., 1989 Progress Report: Televi-

sion, 99:276, April 1990

Godden, R.; Bernstein, L.; Erhardt, H.; Kennel, G.; Kessler, D.; Kurtz, A.; Lees, R.; Loveridge, J.; Moore, L.; and Sharman, R., High-Performance CCD Telecine for HDTV, 99:837, Oct. 1990

Gomery, Douglas, Theater Television: A History, 98:120, Feb. 1989

Gougeon, Guy, Broadcasting-Orchestrating Our Future, address, 99:329, April 1990

Evolution During Revolution, 96:684, July 1987

Goushi, Seiichi; Hioki, Toshiaki; Ishii, Yasuhiro; Izumi, Yoshinori; Morita, Yoshihiro; Ninomiya, Yuichi; Ohta, Osamu; Ohtsuka, Yoshimichi; and Toyama, Tateo, Optical Videodisc for High-Definition Television by the MUSE, 95:25, Jan. 1986

Grafton, David; West, Mark; Edlund, Richard; and Wilcox, Bob, The Zoom Aerial 65mm Optical Printer (ZAP) System, 96:674, July

1987

Graham, Merv, The UTECS System for Controlling Television Equipment Analog Func-

tions, 99:151, Feb. 1990

Gray, Joel E.; Harshbarger, John H.; Lisk, Kenneth G.; Schwenker, Ronald; Anderson, Walter; and Uzenoff, Robert A., Acceptance and Use of the SMPTE Medical Diagnostic Imaging Test Pattern for Television Monitors and Hard-Copy Recording Cameras, 99:1001, Dec. 1990

Green, Norman W., and Dalton, Chris J., Experience with an Experimental Digital Component Video Production Facility, 98:348, May

Green, Richard R., Cultivating the Wasteland with Technology, 96:770, Aug. 1987

Griffin, Ann P., Packaging Innovations for Motion-Picture Films, 98:184, March 1989

Grimaldi, J. L.; Cayet, A.; and Nasse, D., An Experimental All-Digital Television Center, 95:13, Jan. 1986

#### н

Hanabusa, T., and Thorpe, Laurence J., If Progressive Scanning Is So Good, How Bad Is Interlace?, 99:972, Dec. 1990

Haney, Frank J., opening address, 23rd Television Conference, 98:308, April 1989

opening address, 24th Television Conference, 99:325, April 1990

1986 Progress Report: Television, 96:346, April 1987

, 1987 Progress Report: Television, 97:275, April 1988

1988 Progress Report: Television, 98:249, April 1989

Harada, Nozumu; Ide, Yuji; Nishizawa, Tamotsu; and Sasuga, Mitsuo, A Three-CCD HDTV Color Camera, 99:532, July 1990

Harshbarger, John H.; Anderson, Walter; Gray, Joel E.; Lisk, Kenneth G.; Schwenker, Ronald; and Uzenoff, Robert A., Acceptance and Use of the SMPTE Medical Diagnostic Imaging Test Pattern for Television Monitors and Hard-Copy Recording Cameras, 99:1001, Dec. 1990

Hayes, Donald, Applications of the LaserVision Standard Videodisc in the Broadcasting

Industry, 98:20, Jan. 1989

Hedtke, Rolf, Measurement Methods and Diagnostic Techniques for the Digital Television Tape Recorder (DTTR), 95:878, Sept.

Heitmann, Jürgen K. R., Development of Component Digital VTRs and the Potential of the D-1 Format, 97:126, Feb.1988

Electrical System Design for the SMPTE D-1 DTTR, 95:1215, Dec. 1986

Henry, F. Stephen, The Application of Electronic Ballasting with Medium Arc Metal Halide Lamps, 98:754, Oct. 1989

and Lewandowski, Bernd, New Single-Ended Metal-Halide Lamps for ENG, EFP, and Film Production, 99:644, Aug. 1990

Herz, William S., Diagnostics for High-Speed Video Circuitry: Application to a Digital Videotape Recorder, 97:806, Oct. 1988

Hessler, Paul, and Blackburn, R. J., DS3-Rate (45 Mbit/sec), Customer-Controllable, Multipoint Networks for Broadcast Television Distribution/Collection, 97:687, Sept.

Hillyer, F. C. H., and French, E. F., Static Electricity: An Introduction to the Problems and Their Solutions in the Film and Television Industries, 95:562, May 1986

Hines, Stephen P., Front-Projection Screens: Properties and Applications, 95:903, Sept.

Hioki, Toshiaki; Ishii, Yasuhiro; Izumi, Yoshinori; Morita, Yoshihiro; Ninomiya, Yuichi; Ohta, Osamu; Ohtsuka, Yoshimichi; Goushi, Seiichi; and Toyama, Tateo, Optical Videodisc for High-Definition Television by the MUSE, 95:25, Jan. 1986

Hirano, Yasuhiro, and Fukinuki, Takahiko, The To-and-Fro Zone Plate (TFZP) Method for Observing Frequency Characteristics in Three Dimensions, 95:899, Sept. 1986

Hirose, K.; Aizawa, I.; Azuma, N.; Okada, S.; Oku, M.; and Ozawa, M., High Picture Quality Technologies for an S-VHS Portable VCR, 98:636, Sept. 1989

Hirota, Akira, and Neubert, Neil, Recent Technical Developments in the S-VHS VCR for Broadcasting and Professional Applications, 99:376, May 1990

Hisdal, Bjarne, Evaluation of TV System Colorimetric Performance, 98:371, May 1989 , On Testing the Colorimetric Perfor-

mance of TV Cameras, 97:388, May 1988 Hitchner, Lewis E., and Stein, Charles S., The

Multiresolution Dissolve, 97:977, Dec. 1988 Hoadley, Howard W., The Film Facit™ 3000H

Color Film Analyzer, 97:830, Oct. 1988 Hoffman, Shel; Hopkins, Bryan; Rabinowitz, David; Schmerler, David; Brandel, Robert; Eyring, Ken; and Wolzien, Thomas, Component Compositing in Post-Production, 95:884, Sept. 1986

Hoffner, Randall, Audio Program Metering in the 1980s: The Work of the IEEE Audio Measurements Subcommittee, 98:590, Aug. 1989

, The Future of Television Audio, 97:925, Nov. 1988

Stereo TV-Mono Is the Problem, 95:624, June 1986

Holoch, Gerhard, and Mayer, Norbert, Improved PAL Using a Combination of NTSC, SECAM, and PAL, 95:707, July 1986

Hope, Thomas W., 1985 Progress Report: Hope Reports, 95:430, April 1986

, 1986 Progress Report: Hope Reports, 96:387, April 1987

, 1987 Progress Report: Hope Reports, 97:309, April 1988

1988 Progress Report: Hope Reports, 98:286, April 1989

, 1989 Progress Report: Hope Reports, 99:312, April 1990

Hopkins, Bryan; Rabinowitz, David; Schmerler, David; Brandel, Robert; Eyring, Ken; Hoffman, Shel; and Wolzien, Thomas, Component Compositing in Post-Production, 95:884, Sept. 1986

Hrycenko, George, and Dulac, Stephen, Adjacent Satellite and Ground Station Interference, 98:890, Dec. 1989

Hsu, Stephen C., The Kell Factor: Past and

Present, 95:206, Feb. 1986 Hurwitz, Joyce R., The SMPTE Hollywood

Section-A Profile, 99:844, Oct. 1990 SMPTE New York Section—A Profile.

99:320, April 1990

Hyman, Mark S., The 16th Meeting of IEC TC60-Recording, Subcommittees SC60A-Audio Recording, and SC60B-Video Recording, 99:572, July 1990

#### 1

Ide, Yuji; Nishizawa, Tamotsu; Harada, Nozumu; and Sasuga, Mitsuo, A Three-CCD HDTV Color Camera, 99:532, July 1990

Idenuma, H.; Kuma, T.; Murakami, Y.; Takeno shita, S.; and Yoshitake, T., The Motorcycle Radio-Camera System, 97:130, Feb. 1988

Ike, Kazuo, and Dare, Peter A., SMPTE Type D-1 Cassette Design Considerations, 95:874, Sept. 1986

Ikeda, Sadayuki; Kamata, Takao; Kohno, Akiyoshi; Shimizu, Mikio; Dienhart, Richard; and Yamamoto, Setsuo, Recent Development of a Broadcast-Quality CCD Camera, 95:1158, Nov. 1986

Inatsu, Minoru; Kasai, Susumu; Kawamura, Toshiaki; Sato, H.; and Tominaga, Tamotsu, A New Small-Format VTR Using an 8mm

Cassette, 96:466, May 1987

; Kasai, Susumu; Kawamura, Toshiaki; Kirino, Toru; Ogihara, Hirotomo; and Tominaga, Tamotsu, Progress Report on Recent Developments on One Manufacturer's 1/4-in. ENG Recorder, 95:20, Jan. 1986

Inoue, S.; Kageyama, S.; Uwabata, H.; Abe, Y.; and Yasumoto, Y., A 6-MHz NTSC-Compatible Widescreen Television System with Pan-and-Scan Capability, 99:639, Aug.

Iredale, Richard J., HD-PRO's: A New Global High-Definition Video Production Format, 98:439, June 1989

, A Proposal for a New High-Definition NTSC Broadcast Protocol, 96:959, Oct. 1987

Isesaka, K.; Kobyashi, K.; Leader, S.; Nakamura, T.; Fujimaki, Y.; and Takahashi, S., The Application of High-Coercivity Cobalt Iron Oxide Tape for Digital Video Recording, 98:168, March 1989

Ishii, Yasuhiro; Izumi, Yoshinori; Morita, Yoshihiro; Ninomiya, Yuichi; Ohta, Osamu; Ohtsuka, Yoshimichi; Goushi, Seiichi; Hioki, Toshiaki; and Toyama, Tateo, Optical Videodisc for High-Definition Television by the MUSE, 95:25, Jan. 1986

Ishikura, Akihiko; Kishimoto, Ryozo; and Sakurai, Naoya, Bit-Rate Reduction in the Transmission of High-Definition Television

Signals, 96:191, Feb. 1987

Isnardi, Michael A.; Dieterich, Charles B.; and Smith, Terrence R., Advanced Compatible Television: A Progress Report, 98:484, July 1989

——, Exploring and Exploiting Subchannels in the NTSC Spectrum, 97:526, July 1988

Isono, Haruo, and Yasuda, Minoru, Flicker-Free Field-Sequential Stereoscopic TV System and Measurement of Human Depth Perception, 99:136, Feb. 1990

Iwadate, Yuichi; Kubota, Keiichi; Matsumoto, Mutsuo; and Seo, Kenzo, International Transmission of HDTV Signals, 99:145,

Feb. 1990

Iwasaki, T.; Tamura, E.; and Thorpe, Laurence J., New Advances in CCD Imaging, 97:378, May 1988

Iwata, Akira; Monjo, Yoshio; Niikura, Teruo; and Tamura, Hisao, A New Method of Video Synthesis Developed by NHK, 95:702, July 1986

Izumi, Yoshinori; Morita, Yoshihiro; Ninomiya, Yuichi; Ohta, Osamu; Ohtsuka, Yoshimichi; Goushi, Seiichi; Hioki, Toshiaki; Ishii, Yasuhiro; and Toyama, Tateo, Optical Videodisc for High-Definition Television by the MUSE, 95:25, Jan. 1986

Izumita, Morishi; Doi, Nobukazu; Eto, Yoshizumi; and Mita, Seiichi, Adaptive Equalization Techniques for Digital Video Recording

Systems, 97:8, Jan. 1988

#### J

James, Ron, and Webster, Ed, Computer-Aided Design in Facilities and System Integration, 98:378, May 1989

Janas, Jane J., Improved Particulate Contamination Control for Solutions Used for the Processing of Photographic Materials, 99:32, Jan. 1990

Jaslowitz, Morris; Zwaneveld, Ed; and D'Silva, Terry, Sound Genie™—An Automated Digital Sound Effects Library System, 99:386, Mav 1990

Jenkins, C. Francis, History of the Motion Picture, reprint, 98:188, March 1989

Jones, Bronwen L., and McManus, Pamela R., Graphic Scaling of Qualitative Terms, 95:1166, Nov. 1986

Jones, Howard P., and Loth, Stanislaw, The Arriflex Adjustable Contrast Filter: The ARRI VariCon, 98:765, Oct. 1989

----, and Loth, Stanislaw, The Arriflex Contrast Meter: A New Nonsubjective Method of Measuring Contrast on the Set, 98:771, Oct. 1989

#### K

Kageyama, S.; Abe, Y.; Inoue, S.; Uwabata, H.; and Yasumoto, Y., A 6-MHz NTSC-Compatible Widescreen Television System with Pan-and-Scan Capability, 99:639, Aug. 1990 Kaiser, Paul, and Quinn, Stanley, Production and Post-Production Experience with ½-in. Camera Recorders in the CBC, 96:28, Jan. 1987

Kaku, Nobuyuki; Niguchi, Y.; Ogiro, K.; Ono, H.; Ozaki, S.; Ozawa, T.; Yokata, H.; and Yokoo, S., Mechanical Considerations in the Design of a Composite Digital VTR, 98:568, Aug. 1989

Kamata, Takao; Kohno, Akiyoshi; Shimizu, Mikio; Dienhart, Richard; Ikeda, Sadayuki; and Yamamoto, Setsuo, Recent Development of a Broadcast-Quality CCD Camera, 95:1158, Nov. 1986

Kaminaga, K.; Berger, Paul; Carr, S.; Murakami, Y.; and Suda, M., Time Compression/ Expansion with D-2 Composite Digital Recording, 99:381, May 1990

Kane, Joseph J., Jr., Instrumentation for Monitor Calibration, 99:744, Sept. 1990

Kaplan, Sam H., The History of Color Picture Tubes and Some Future Projections, 99:396, May 1990

Kasai, Susumu; Kawamura, Toshiaki; Sato, H.; Inatsu, Minoru; and Tominaga, Tamotsu, A New Small-Format VTR Using an 8mm Cassette, 96:466, May 1987

; Kawamura, Toshiaki; Kirino, Toru; Ogihara, Hirotomo; Inatsu, Minoru; and Tominaga, Tamotsu, Progress Report on Recent Developments on One Manufacturer's <sup>1</sup>/<sub>4</sub>-in. ENG Recorder, 95:20, Jan. 1986

Katsumi, Ryuichi, and Dare, Peter A., Rotating Digital Audio Tape (R-DAT): A Format Overview, 96:943, Oct. 1987

Kauff, Peter, and Schäfer, Ralf, HDTV Colorimetry and Gamma Considering the Visibility of Noise and Quantization Errors, 96:822, Sept. 1987

Kawamura, Toshiaki; Eto, Yoshizumi; and Umemoto, Masuo, Considerations for Improvement of an HDTV Digital VTR, 96:177, Feb. 1987

—; Sato, H.; Inatsu, Minoru; Kasai, Susumu; and Tominaga, Tamotsu, A New Small-Format VTR Using an 8mm Cassette, 96:466, May 1987

; Kirino, Toru; Ogihara, Hirotomo; Inatsu, Minoru; Kasai, Susumu; and Tominaga, Tamotsu, Progress Report on Recent Developments on One Manufacturer's 1/4-in. ENG Recorder, 95:20, Jan. 1986

Keiler, John A., and Pollakowski, G., Persulfate/Quinone Bleach—Environmental and Economic Aspects, 95:220, Feb. 1986

Kennedy, M. Carlos, Japan Trip: A Message from the President and Delegates, 96:1099, Nov. 1987

The 1985 Progress Report—Foreword, 95:406, April 1986

opening address, 129th Technical Conference, 97:77, Jan. 1988

opening address, SMPTE Sound & Vision '88, 97:860, Oct. 1988

, opening address, 130th Technical Conference, 98:61, Jan. 1989

The SMPTE in a Changing World, address, 96:1106, Nov. 1987

Kennel, Glenn L.; Bernstein, L.; Erhardt, H.; Godden, R.; Kessler, D.; Kurtz, A.; Lees, R.; Loveridge, J.; Moore, L.; and Sharman, R., High-Performance CCD Telecine for HDTV, 99:837, Oct. 1990

; Pytlak, John; Sehlin, Richard; and Uhlig, Ronald, Major Motion-Picture Production Standards, 97:985, Dec. 1988

—, and Powell, Steven J., Noise in Film-to-Video Transfers, 96:16, Jan. 1987 Kessler, D.; Bernstein, L.; Erhardt, H.; Godden, R.; Kennel, G.; Kurtz, A.; Lees, R.; Loveridge, J.; Moore, L.; and Sharman, R., High-Performance CCD Telecine for HDTV, 99:837, Oct. 1990

Keys, Lyle, and Reynolds, Don, Signal Distribution in Tomorrow's Television Plant,

95:1031, Oct. 1986

Kiankhooy, Paul, HMI Lighting for High-Speed Photographic Applications, 98:896, Dec. 1989

Kiguchi, T.; Kitamura, Y.; Miyakawa, Y.; Ni-shikawa, S.; Taniguchi, M.; Toyoda, H.; Asada, R.; and Watanabe, M., Broadcast-Quality TV Camera with Digital Signal Processor, 99:727, Sept. 1990

Kimata, Yoshihide; Araki, Yosai; and Sugimori, Yoshio, Experiments with an Enhanced-Quality NTSC-Compatible TV System,

97:970, Dec. 1988

Kimoto, Kiyoshi; Nakagawa, Shozo; Nomura, Tatsuo; and Yokoyama, Katsuya, High-Quality Magneto-Optic Disk Video Recording, 96:1062, Nov. 1987

Kirby, Richard C., Broadcasting and International Standards, 97:720, Sept. 1988

Kirino, Toru; Ogihara, Hirotomo; Inatsu, Minoru; Kawamura, Toshiaki; Kasai, Susumu; and Tominaga, Tamotsu, Progress Report on Recent Developments on One Manufacturer's /4-in. ENG Recorder, 95:20, Jan. 1986

Kishimoto, Ryozo; Ishikura, Akihiko; and Sakurai, Naoya, Bit-Rate Reduction in the Transmission of High-Definition Television

Signals, 96:191, Feb. 1987

Kitamura, Y.; Asada, R.; Kiguchi, T.; Miyakawa, Y.; Nishikawa, S.; Taniguchi, M.; Toyoda, H.; and Watanabe, M., Broadcast-Quality TV Camera with Digital Signal Processor, 99:727, Sept. 1990

Kizu, Shigeo; Endo, Naoki; and Ogi, Keisuke, A //2-In. Cassette HDTV VTR, 99:891, Nov.

1990

Kjellström, Lars-Erik, Control and Prediction of Film Density and Color Balance in the Developing Process, 99:191, March 1990

Knee, Michael J., Adaptive Prediction for High-Quality Television Transmission Coding Based on the LMS Algorithm, 98:580, Aug. 1989

Kobyashi, K.; Leader, S.; Nakamura, T.; Fuji-maki, Y.; Isesaka, K.; and Takahashi, S., The Application of High-Coercivity Cobalt Iron Oxide Tape for Digital Video Recording, 98:168, March 1989

Kohno, Akiyoshi; Shimizu, Mikio; Dienhart, Richard; Ikeda, Sadayuki; Kamata, Takao; and Yamamoto, Setsuo, Recent Development of a Broadcast-Quality CCD Camera, 95:1158. Nov. 1986

Kolb, Frederick J., ed., Bibliography: Psychophysics of Image Evaluation, 98:594, Aug. 1989

Komar, Viktor D., and Chernoyarsky, Anatoly A., The Motion-Picture Industry and Technology in the USSR, 99:214, March 1990

Kubo, K.; Okamura, N.; and Morikura, S., The PFWM Fiber-Optic Transmission System for HDTV, 99:565, July 1990

Kubota, Keiichi; Matsumoto, Mutsuo; Iwadate, Yuichi; and Seo, Kenzo, International Transmission of HDTV Signals, 99:145, Feb. 1990

Kuboto, Tatsuya; Matsumoto, Kunio; and Thorpe, Laurence J., An HDTV Downconverter for Post-Production, 99:124, Feb. 1990

Kuma, T.; Murakami, Y.; Takenoshita, S.; Idenuma, H.; and Yoshitake, T., The Motorcycle Radio-Camera System, 97:130, Feb. 1988 Kumada, Junji; Okano, Fumio; and Tanioka, Kenkichi, The HARP High-Sensitivity Handheld HDTV Camera, 99:612, Aug. 1990

Kurashige, M.; Egami, N.; Ehata, S.; Okazaki, S.; Oku, K.; Tanioka, K.; and Yamagishi, T., High-Sensitivity HDTV Camera Tube with a HARP Target, 99:723, Sept. 1990

; Tanioka, K.; Egami, N.; and Shidara, K., Super-Sensitive HDTV Camera Tube with the Newly Developed HARP Target, 97:538, July 1988

Kurtz, A.; Bernstein, L.; Erhardt, H.; Godden, R.; Kennel, Glenn; Kessler, D.; Lees, R.; Loveridge, J.; Moore, L.; and Sharman, R., High-Performance CCD Telecine for HDTV, 99:837, Oct. 1990

Kuwata, Takeshi, and Seo, Taijiro, A Portable Prompter System Equipped with a Liquid Crystal Display, 99:200, March 1990

#### L

Lacoste, Jean-Pierre, and Wonfor, Peter J., The CCD Camera for Field Production Applications, 97:817, Oct. 1988

Lacotte, Jean Pierre; Tichit, Bernard; and Tonge, Gary, Progressive Scanning: An EDTV Gateway to HDTV, 99:824, Oct. 1990

Lamnabhi, M.; Robert, P.; and Lhuillier, J. J., Advanced High-Definition 50 to 60-Hz Standards Conversion, 98:420, June 1989

La Zare, Howard T., opening address, 21st Annual Television Conference, 96:393, April 1987

—, opening address, 22nd Annual Television Conference, 97:329, April 1988

Leader, S.; Nakamura, T.; Fujimaki, Y.; Ise-saka, K.; Kobyashi, K.; and Takahashi, S., The Application of High-Coercivity Cobalt Iron Oxide Tape for Digital Video Recording, 98:168, March 1989

Lee, Ronald; Fockens, Pieter; Bretl, Wayne; and Citta, Richard, Spectrum-Compatible High-Definition Television Transmission System, 98:748, Oct. 1989

Lee, William E., and Bard, Charleton C., The Stability of Kodak Professional Motion-Picture Film Bases, 97:911, Nov. 1988

Lees, R.; Bernstein, L.; Erhardt, H.; Godden, R.; Kennel, Glenn L.; Kessler, D.; Kurtz, A.; Loveridge, J.; Moore, L.; and Sharman, R., High-Performance CCD Telecine for HDTV, 99:837, Oct. 1990

Leiner, H. Richard, Digital Medical Image Storage on VHS Cassette, 95:805, Aug. 1986

Lemay, Denis; Sabri, Shaker; and Dubois, Eric, A Modular Digital Video Coding Architecture for Present and Advanced TV Systems, 98:504, July 1989

Lemoine, M.; Magnusson, S.; Morrison, F.; Rodal, D.; Ryan, D.; Brush, R.; Engberg, E.; and Watney, J., The Composite Digital Format and Its Applications, 96:934, Oct. 1987

Leonard, Eugene, Dynamically Reconfigurable Video Graphic Processor, 95:637, June 1986 Levine, Mark, and Teitelbaum, Harry, The

HFC Fully Automated Proofing Printer, 97:139, Feb. 1988

; Arbeeny, Al; and Teitelbaum, Harry, The 300D Digital Video Color Film Analyzer: A Logical Use of the Best of Today's Technologies, 99:1008, Dec. 1990 Lewandowski, Bernd, and Henry, F. Stephen, New Single-Ended Metal-Halide Lamps for ENG, EFP, and Film Production, 99:644, Aug. 1990

Lewis, John, A New Era in Television Test and Measurement, 97:894, Nov. 1988

Lhuillier, J. J.; Robert, P.; and Lamnabhi, M., Advanced High-Definition 50 to 60-Hz Standards Conversion, 98:420, June 1989

Lietaert, Norbert; Piepers, Martin; and Verbrugge, Joost, Digital Intelligence in Professional Broadcast Monitors, 97:484, June 1988

Lindsay, Richard, A Question of Balance: Design of Lightweight Camera Mountings, 97:394, May 1988

Lippman, A. B.; Netravali, A. N.; Schreiber, William F.; Adelson, E. H.; and Staelin, D. H., Channel-Compatible 6-MHz HDTV Distribution Systems, 98:5, Jan. 1989

; Adelson, É. H.; Monta, P.; Netravali, A. N.; Popat, A.; Rongshu, Gong; Sallic, H.; Shen, P.; Schreiber, William F.; Tom, A.; and Zangi, K., A Compatible High-Definition Television System Using the Noise-Margin Method of Hiding Enhancement Information, 98:873, Dec. 1989

—, and Schreiber, William F., Reliable EDTV/HDTV Transmission in Low-Quality Analog Channels, 98:496, July 1989

; Adelson, E. H.; Netravali, A. N.; Neuman, W. R.; and Schreiber, William F., Single-Channel Backward-Compatible EDTV Systems, 98:14, Jan. 1989

Lisk, Kenneth G.; Anderson, Walter; Gray, Joel E.; Harshbarger, John H.; Schwenker, Ronald; and Uzenoff, Robert A., Acceptance and Use of the SMPTE Medical Diagnostic Imaging Test Pattern for Television Monitors and Hard-Copy Recording Cameras, 99:1001, Dec. 1990

Livingston, P.; Mifflin, M.; Min, M.; and Notani, M., The M.A.R.C. II System: A Modular Multiple Robotic Record/Play Videocassette System, 99:448, June 1990

Loth, Stanislaw, and Jones, Howard P., The Arriflex Adjustable Contrast Filter: The ARRI VariCon, 98:765, Oct. 1989

—, and Jones, Howard P., The Arriflex Contrast Meter: A New Nonsubjective Method of Measuring Contrast on the Set, 98:771, Oct. 1989

Loveridge, J.; Bernstein, L.; Erhardt, H.; Godden, R.; Kennel, Glenn L.; Kessler, D.; Kurtz, A.; Lees, R.; Moore, L.; and Sharman, R., High-Performance CCD Telecine for HDTV, 99:837, Oct. 1990

Lowe, Ray, NBC Camera Robotics System, 99:203, March 1990

Lucht, Philip; Putnam, Leland K.; and Davis, Jeff, A High-Speed Architecture for Image Computation, 97:464, June 1988

—, Variable-Resolution Rendering System Extends TV Animation Graphics to Film and Print Media, 96:837, Sept. 1987

#### м

MacClymont, Donald R., and Wood, John H., New Developments in Electronic Character Generation, 95:557, May 1986

Magnusson, S.; Morrison, F.; Rodal, D.; Ryan, D.; Brush, R.; Engberg, E.; Lemoine, M.; and Watney, J., The Composite Digital Format and Its Applications, 96:934, Oct. 1987 Mahler, Henry; Gabritsos, George; and Gaspar, James, A Comparison of HDTV and Film— Overall Light Transfer Characteristics, 98:556, Aug. 1989

Malcher, Andrew T., and Dalton, Chris J., Communications between Analog Component Production Centers, 97:606, Aug. 1988

Malden, Karl, address, 131st Technical Conference, 99:91, Jan. 1990

Mantchev, Nikola; Nedyalkov, Emanuil; Popova, Eugenia; Stankov, Angel; Aroyo, Izi; Dragostinov, Todor; and Zhivkov, Plamen, Transmission of Additional Information in the Active Television Lines, 95:814, Aug. 1986

Marsden, Richard; Oliphant, Andrew; and Zubrzycki, John, An Optical Routing System for Tomorrow's Television Studio Centers, 96:660, July 1987

Mathias, Harry, Gamma and Dynamic Range Needs for an HDTV Electronic Cinematography System, 96:840, Sept. 1987

Matney, Earl, and Baker, Dan, Determining Valid Component Analog Video Signals with a 3-D Vector Representation, 95:550, May 1986

Matsumoto, Kunio; Kuboto, Tatsuya; and Thorpe, Laurence J., An HDTV Downconverter for Post-Production, 99:124, Feb. 1990

Matsumoto, Mutsuo; Kubota, Keiichi; Iwadate, Yuichi; and Seo, Kenzo, International Transmission of HDTV Signals, 99:145, Feb. 1990

Matsumoto, Shuichi; Murakami, Hitomi; and Yamamoto, Hideo, Coding Performance of Motion-Compensated Interframe, Interfield, and Intrafield Adaptive Prediction Coding for Composite and Component TV Signals, 95:542, May 1986

Matsuura, Shigeo; Nakagawa, Isao; Noda, Tsutomu; Shinkawa, Keirou; and Shirosugi, Takatoshi, A Digital Audio Transmission System Using Quadrature Modulation of the NTSC Television Carrier, 99:829, Oct. 1990

Matsuzuru, Toshinari; Monjo, Yoshio; and Sueoka, Takashi, A New Technique to Improve Video Stability by Digital Processing, 97:908, Nov. 1988

Mayer, Norbert, and Holoch, Gerhard, Improved PAL Using a Combination of NTSC, SECAM, and PAL, 95:707, July 1986

Mayhew, Christopher A., Texture and Depth Enhancement for Motion Pictures and Television, 99:809, Oct. 1990

McCrea, James L., and Ram, A. Tulsi, Stability of Processed Cellulose Ester Photographic Films, 97:474, June 1988

McCrirrick, T. Bryce, address, 21st Annual Television Conference, 96:396, April 1987 McCroskey, Donald C., 1985 Progress Report:

Television, 95:420, April 1986

McManus, Pamela R., and Jones, Bronwen L.,

Graphic Scaling of Qualitative Terms, 95:1166, Nov. 1986

McPheeters, Craig; Garbutt, Rick; and Wyvill, Brian, University of Calgary 3-D Computer Animation System, 95:629, June 1986

Meiseles, Howard, Objective Measurement Methods of Motion Artifacts for 45-Mbit, NTSC, DPCM, Bit-Reduction Video Codecs, 99:180, March 1990

Mendrala, James A., Electronic Cinematography for Motion-Picture Film, 96:1090, Nov. 1987

Mester, Roland, Optimization of the D-1 DTTR Standard by Simulation Techniques, 95:1017, Oct. 1986

Michener, James A., A Single-Chip Codec for the DS3 45-Megabit Telecommunication Format, 99:27, Jan. 1990 Mifflin, M.; Min, M.; Livingston, P.; and Notani, M., The M.A.R.C. II System: A Modular Multiple Robotic Record/Play Videocassette System, 99:448, June 1990

Miller, Thomas E., The Design of a Film Mix Theater for Video Applications, 97:133, Feb.

1988

Min, M.; Livingston, P.; Mifflin, M.; and Notani, M., The M.A.R.C. II System: A Modular Multiple Robotic Record/Play Videocassette System, 99:448, June 1990

Mirabito, Michael M., and Morgenstern, Barbara L., Bibliography: New Technology in Video and Related Fields, 95:239, Feb. 1986

Mita, Seiichi; Izumita, Morishi; Doi, Nobukazu; and Eto, Yoshizumi, Adaptive Equalization Techniques for Digital Video Recording Systems, 97:8, Jan. 1988

; Nagahara, Shusaku; Eto, Yoshizumi; and Umemoto, Masuo, An Experimental Digital VTR for HDTV, 95:215, Feb. 1986

Mitani, Kohji; Andoh, Fumihiko; Fujita, Yoshihiro; Fujiwara, Masao; and Sugahara, Masayuki, A New High-Speed Camera System for Broadcast Use—The Action Analyzer, 99:820, Oct. 1990

Miura, Hideki; Chikuma, Takashi; and Thorpe, Laurence J., Large-Screen HDTV Monitor Development, 99:620, Aug. 1990

Miyakawa, Y.; Asada, R.; Kiguchi, T.; Kitamura, Y.; Nishikawa, S.; Taniguchi, M.; Toyoda, H.; and Watanabe, M., Broadcast-Quality TV Camera with Digital Signal Processor, 99:727, Sept. 1990

Moffat, Bruce, Television Engineering Research in the BBC, Today and Tomorrow,

97:17, Jan. 1988

Molo, Francesco, and Cucchi, Silvio, DCT-Based Television Codec for DS3 Digital Transmission, 98:640, Sept. 1989

Monjo, Yoshio; Niikura, Teruo; Iwata, Akira; and Tamura, Hisao, A New Method of Video Synthesis Developed by NHK, 95:702, July 1986

; Matsuzuru, Toshinari; and Sueoka, Takashi, A New Technique to Improve Video Stability by Digital Processing, 97:908, Nov. 1988

Monta, P.; Lippman, A. B.; Netravali, A. N.; Popat, A.; Rongshu, Gong; Sallic, H.; Shen, P.; Schreiber, William F.; Tom, A.; Adelson, E. H.; and Zangi, K., A Compatible High-Definition Television System Using the Noise-Margin Method of Hiding Enhancement Information, 98:873, Dec. 1989

Moore, Arthur R., and Sharrock, Michael P., Magnetic Media for the Digital Television Tape Recorder, 95:1004, Oct. 1986

Moore, L.; Bernstein, L.; Erhardt, H.; Godden, R.; Kennel, Glenn L.; Kessler, D.; Kurtz, A.; Lees, R.; Loveridge, J.; and Sharman, R., High-Performance CCD Telecine for HDTV, 99:837, Oct. 1990

Moorer, James A.; Borish, Jeffrey; and Nye, Peter, SoundDroid: A New System for Electronic Post-Production of Sound, 95:567,

May 1986

Morgenstern, Barbara L., and Mirabito, Michael M., Bibliography: New Technology in Video and Related Fields, 95:239, Feb. 1986 Morikura, S.; Okamura, N.; and Kubo, K., The

PFWM Fiber-Optic Transmission System for HDTV, 99:565, July 1990

Morita, Yoshihiro; Ninomiya, Yuichi; Ohta, Osamu; Ohtsuka, Yoshimichi; Goushi, Seiichi; Hioki, Toshiaki; Ishii, Yasuhiro; Izumi, Yoshinori; and Toyama, Tateo, Optical Videodisc for High-Definition Television by the MUSE, 95:25, Jan. 1986 Morrel, Garn; Faison, Ginny; and Chernyshov, Dimitri, Real-Time Digital Compositing in Anti-Aliased Text and Graphics Generation, 98:512, July 1989

Morrison, E. Fraser; Rodal, D.; Ryan, D.; Brush, R.; Engberg, E.; Lemoine, M.; Magnusson, S.; and Watney, J., The Composite Digital Format and Its Applications, 96:934, Oct. 1987

——, Multigeneration Performance of a Digital Composite VTR, 98:732, Oct. 1989

—, Technical Advances in Type-C Picture Processing, 95:713, July 1986

Murai, Koichi; Noguchi, Kozo; and Urata, Yukihide, Fujicolor Negative Films—F-Series, 98:830, Nov. 1989

Murakami, Hitomi; Matsumoto, Shuichi; and Yamamoto, Hideo, Coding Performance of Motion-Compensated Interframe, Interfield, and Intrafield Adaptive Prediction Coding for Composite and Component TV Signals, 95:542, May 1986

Murakami, K.; Chzeki, K.; Okui, M.; and Shirata, K., Locus Display of Moving Sports

Players, 96:667, July 1987

Murakami, Keinosuke; Enami, Kazumasa; and Yagi, Nobuyuki, A Proposed Universal Signal-Processing System, 96:527, June 1987

——; Enami, Kazumasa; and Yagi, Nobuyuki, Real-Time Video Signal Processor, 96:1158, Dec. 1987

Murakami, Y.; Takenoshita, S.; Idenuma, H.; Kuma, T.; and Yoshitake, T., The Motorcycle Radio-Camera System, 97:130, Feb. 1988

Murakami, Y.; Berger, Paul; Carr, S.; Kaminaga, K.; and Suda, M., Time Compression/ Expansion with D-2 Composite Digital Recording, 99:381, May 1990

#### N

Nagahara, Shusaku; Eto, Yoshizumi; Mita, Seiichi; and Umemoto, Masuo, An Experimental Digital VTR for HDTV, 95:215, Feb. 1986

Nagai, Kiyotaka; Nakajima, Yasushi; Okamasa, Makoto; Finger, Robert A.; and Ueno, Takafumi, A Professional DAT System,

99:542, July 1990

Nakagawa, Isao; Matsuura, Shigeo; Noda, Tsutomu; Shinkawa, Keirou; and Shirosugi, Takatoshi, A Digital Audio Transmission System Using Quadrature Modulation of the NTSC Television Carrier, 99:829, Oct. 1990

Nakagawa, Shozo; Nomura, Tatsuo; Kimoto, Kiyoshi; and Yokoyama, Katsuya, High-Quality Magneto-Optic Disk Video Recording, 96:1062, Nov. 1987

Nakajima, Yasushi; Finger, Robert A.; Nagai, Kiyotaka; Okamasa, Makoto; and Ueno, Takafumi, A Professional DAT System, 99:542, July 1990

Nakamura, T.; Fujimaki, Y.; Isesaka, K.; Kobyashi, K.; Leader, S.; and Takahashi, S., The Application of High-Coercivity Cobalt Iron Oxide Tape for Digital Video Recording, 98:168, March 1989

Nasse, Dominique; Grimaldi, J. L.; and Cayet, A., An Experimental All-Digital Television Center, 95:13, Jan. 1986

——, and Chatel, Jean, Toward a World Studio Standard for High-Definition Television, 98:434, June 1989

Natarajan, P. S.; Austin, M. D.; Forbes, C. G.; Orost, J.; and Venkatesan, P. S., Transmission of HDTV and Audio Signals over One Single-Mode Fiber, 98:651, Sept. 1989

Nedyalkov, Emanuil; Popova, Eugenia; Stankov, Angel; Aroyo, Izi; Dragostinov, Todor; Mantchev, Nikola; and Zhivkov, Plamen, Transmission of Additional Information in the Active Television Lines, 95:814, Aug. 1986

Netravali, A. N.; Adelson, E. H.; Lippman, A. B.; Schreiber, William F.; and Staelin, D. H., Channel-Compatible 6-MHz HDTV Distribution Systems, 98:5, Jan. 1989

; Lippman, A. B.; Monta, P.; Popat, A.; Rongshu, Gong; Sallic, H.; Shen, P.; Schreiber, William F.; Tom, A.; Adelson, E. H.; and Zangi, K., A Compatible High-Definition Television System Using the Noise-Margin Method of Hiding Enhancement Information, 98:873, Dec. 1989

—, and Brainard, R. C., Digital Television Recording at 45 Mbits/Sec, 96:4, Jan. 1987 —; Adelson, E. H.; Lippman, A. B.; Neuman, W. R.; and Schreiber, William F., Single-Channel Backward-Compatible EDTV Systems, 98:14, Jan. 1989

—, and Brainard, R. C., Two TV Signals on a 45 Mbit/Sec Channel, 96:834, Sept. 1987 Neubert, Neil, and Hirota, Akira, Recent Technical Developments in the S-VHS VCR for Broadcasting and Professional Applications, 99:376, May 1990

Neuhauser, Robert G., Photoconductors Utilized in TV Camera Tubes, 96:473, May

1987

——, Television Camera Tubes—A History But Not Yetan Obituary, 99:708, Sept. 1990 Neuman, Thomas, and Wolf, Irving, Recording at High Volumetric Packing Densities, 98:515, July 1989

Neuman, W. R.; Adelson, E. H.; Lippman, A. B.; Netravali, A. N.; and Schreiber, William F., Single-Channel Backward-Compatible EDTV Systems, 98:14, Jan. 1989

Newport, Derek J.; Dalton, Chris J.; and Vavasour, Eric J., Comparative Assessment of Video Camera Color Reproduction Using Matchman Mk II, 99:884, Nov. 1990

Ng, Sheau-Bao, A Digital Augmentation Approach to HDTV, 99:559, July 1990

Nicholls, William C., The User Requirements for the 4:2:2 Component Digital VTR, 95:1139, Nov. 1986

Nichols, D. N.; Stevens, E. G.; Chang, W. C.; and Tredwell, T. J., High-Density Solid-State Image Sensor, 96:1186, Dec. 1987

Niguchi, Y.; Ogiro, K.; Ono, H.; Ozaki, S.; Ozawa, T.; Yokata, H.; Kaku, N.; and Yokoo, S., Mechanical Considerations in the Design of a Composite Digital VTR, 98:568, Aug. 1989

Niikura, Teruo; Iwata, Akira; Monjo, Yoshio; and Tamura, Hisao, A New Method of Video Synthesis Developed by NHK, 95:702, July 1986

Ninomiya, Yuichi; Ohta, Osamu; Ohtsuka, Yoshimichi; Goushi, Seiichi; Hioki, Toshiaki; Ishii, Yasuhiro; Izumi, Yoshinori; Morita, Yoshihiro; and Toyama, Tateo, Optical Videodisc for High-Definition Television by the MUSE, 95:25, Jan. 1986

Nishikawa, S.; Asada, R.; Kiguchi, T.; Kitamura, Y.; Miyakawa, Y.; Taniguchi, M.; Toyoda, H.; and Watanabe, M., Broadcast-Quality TV Camera with Digital Signal Processor, 99:727, Sept. 1990

Nishizawa, Tamotsu; Harada, Nozumu; Ide, Yuji; and Sasuga, Mitsuo, A Three-CCD HDTV Color Camera, 99:532, July 1990 Noda, Tsutomu; Matsuura, Shigeo; Nakagawa, Isao; Shinkawa, Keirou; and Shirosugi, Takatoshi, A Digital Audio Transmission System Using Quadrature Modulation of the NTSC Television Carrier, 99:829, Oct. 1990

Noguchi, Kozo; Murai, Koichi; and Urata, Yukihide, Fujicolor Negative Films—F-Series,

98:830, Nov. 1989

Nomura, Tatsuo; Kimoto, Kiyoshi; Nakagawa, Shozo; and Yokoyama, Katsuya, High-Quality Magneto-Optic Disk Video Recording, 96:1062. Nov. 1987

Norris, J. C.; Powell, Steven J.; and Spakowsky, S. W., Eastman Color High-Speed Daylight Negative Films 5297 and 7297, 96:679, July 1987

Notani, M.; Min, M.; Livingston, P.; and Mifflin, M., The M.A.R.C. II System: A Modular Multiple Robotic Record/Play Videocassette System, 99:448, June 1990

Nye, Peter; Moorer, James A.; and Borish, Jeffrey; SoundDroid: A New System for Electronic Post-Production of Sound, 95:567, May 1986

#### 0

Ogi, Keisuke; Kizu, Shigeo; and Endo, Naoki, A ½-In. Cassette HDTV VTR, 99:891, Nov. 1990

Ogihara, Hirotomo; Kirino, Toru; Inatsu, Minoru; Kawamura, Toshiaki; Kasai, Susumu; and Tominaga, Tamotsu, Progress Report on Recent Developments on One Manufacturer's /4-in. ENG Recorder, 95:20, Jan. 1986

Ogino, K.; Yasukouchi, Y.; and Thorpe, Laurence J., New High-Performance Portable

Camera, 97:621, Aug. 1988

Ogiro, K.; Ono, H.; Ozaki, S.; Ozawa, T.; Yokata, H.; Kaku, N.; Niguchi, Y.; and Yokoo, S., Mechanical Considerations in the Design of a Composite Digital VTR, 98:568, Aug. 1989

Ohnishi, Kazunori, Standardization of Design Parameters for CCD Camera Lenses,

98:647, Sept. 1989

Ohta, Osamu; Ohtsuka, Yoshimichi; Goushi, Seiichi; Hioki, Toshiaki; Ishii, Yasuhiro; Izumi, Yoshinori; Morita, Yoshiniro; Ninomiya, Yuichi; and Toyama, Tateo, Optical Videodisc for High-Definition Television by the MUSE, 95:25, Jan. 1986

Ohtsuka, Yoshimichi; Goushi, Seiichi; Hioki, Toshiaki; Ishii, Yasuhiro; Izumi, Yoshinori; Morita, Yoshihiro; Ninomiya, Yuichi; Ohta, Osamu; and Toyama, Tateo, Optical Videodisc for High-Definition Television by the

MUSE, 95:25, Jan. 1986

Ohzeki, K.; Okui, M.; Murakami, K.; and Shirata, K., Locus Display of Moving Sports Players, 96:667, July 1987

Okada, S.; Aizawa, I.; Azuma, N.; Hirose, K.; Oku, M.; and Ozawa, M., High Picture Quality Technologies for an S-VHS Portable VCR, 98:636, Sept. 1989

Okamasa, Makoto; Finger, Robert A.; Nagai, Kiyotaka; Nakajima, Yasushi; and Ueno, Takafumi, A Professional DAT System,

99:542, July 1990

Okamura, N.; Morikura, S.; and Kubo, K., The PFWM Fiber-Optic Transmission System for HDTV, 99:565, July 1990

Okano, Fumio; Kumada, Junji; and Tanioka, Kenkichi, The HARP High-Sensitivity Handheld HDTV Camera, 99:612, Aug. 1990 Okazaki, S.; Egami, N.; Ehata, S.; Kurashige, M.; Oku, K.; Tanioka, K.; and Yamagishi, T., High-Sensitivity HDTV Camera Tube with a HARP Target, 99:723, Sept. 1990

Oku, K.; Egami, N.; Ehata, S.; Kurashige, M.; Okazaki, S.; Tanioka, K.; and Yamagishi, T., High-Sensitivity HDTV Camera Tube with a HARP Target, 99:723, Sept. 1990

Oku, M.; Aizawa, I.; Azuma, N.; Hirose, K.; Okada, S.; and Ozawa, M., High Picture Quality Technologies for an S-VHS Portable VCR, 98:636, Sept. 1989

Okui, M.; Murakami, K.; Ohzeki, K.; and Shirata, K., Locus Display of Moving Sports

Players, 96:667, July 1987

Oliphant, Andrew; Marsden, Richard; and Zubrzycki, John, An Optical Routing System for Tomorrow's Television Studio Centers, 96:660, July 1987

Ono, H.; Ozaki, Š.; Ozawa, T.; Yokata, H.; Kaku, N.; Niguchi, Y.; Ogiro, K.; and Yokoo, S., Mechanical Considerations in the Design of a Composite Digital VTR, 98:568, Aug. 1989

Ono, Yozo, HDTV and Today's Broadcasting World, 99:4, Jan. 1990

Orost, J.; Austin, M. D.; Forbes, C. G.; Natarajan, P. S.; and Venkatesan, P. S., Transmission of HDTV and Audio Signals over One Single-Mode Fiber, 98:651, Sept. 1989

Orsburn, Michael L., Scene-by-Scene Color Correction: The Next Generation, 95:790, Aug. 1986

Oudin, Michel, Direct Introduction of Time Code on Film, 98:123, Feb. 1989

The World's First All-Digital Television Production, 96:11, Jan. 1987

Owen, D. Peter, Dynamic Rounding in Digital Video Processing: An Update, 98:447, June

Ozaki, S.; Ozawa, T.; Yokata, H.; Kaku, N.; Niguchi, Y.; Ogiro, K.; Ono, H.; and Yokoo, S., Mechanical Considerations in the Design of a Composite Digital VTR, 98:568, Aug. 1989

Ozaki, Yoshio, and Thorpe, Laurence J., HDTV Electron Beam Recording, 97:833, Oct. 1988

Ozawa, M.; Aizawa, I.; Azuma, N.; Hirose, K.; Okada, S.; and Oku, M., High Picture Quality Technologies for an S-VHS Portable VCR, 98:636, Sept. 1989

Ozawa, T.; Yokata, H.; Kaku, N.; Niguchi, Y.; Ogiro, K.; Ono, H.; Ozaki, S.; and Yokoo, S., Mechanical Considerations in the Design of a Composite Digital VTR, 98:568, Aug. 1989

#### P

Pantuso, Charles, and Galt, John, Chasing Rainbows: A Technical Overview, 98:179, March 1989

——, Reducing Financial Aliasing in HDTV Production, 98:823, Nov. 1989

Patten, Michael D., Controlling Audio Mixers in Video Post-Production, 97:699, Sept. 1988

Patterson, Richard, Naturalistic Camera Moves in Image Compositing, 98:840, Nov. 1989

Paulson, C. Robert, Television Signal Transmission, Another Technology in Transition, 98:366, May 1989

Pawelski, Robert L., and Rzeszewski, Theodore S., Efficient Transmission of Digital Component Video, 95:889, Sept. 1986 Pazarci, Melih, Reduction of Multipath Effects and Channel Distortion in Broadcast Television, 99:442, June 1990

Petit, Richard D., Margin Testing of Digital Videotape Recorders, 98:128, Feb. 1989

Piepers, Martin; Lietaert, Norbert; and Verbrugge, Joost, Digital Intelligence in Professional Broadcast Monitors, 97:484, June 1988

Pley, John; Azerad, Michael S.; Dabby, Joseph; and Zwaneveld, Ed, The Brain<sup>TM</sup>: A Multi-Axis, Location/Studio Camera/Subject, Robotic Motion-Control System, 98:575, Aug. 1989

Pollakowski, G., and Keiler, John A., Persulfate/Quinone Bleach—Environmental and Economic Aspects, 95:220, Feb. 1986

Popat, A.; Lippman, A. B.; Monta, P.; Netravali, A. N.; Rongshu, Gong; Sallic, H.; Shen, P.; Schreiber, William F.; Tom, A.; Adelson, E. H.; and Zangi, K., A Compatible High-Definition Television System Using the Noise-Margin Method of Hiding Enhancement Information, 98:873, Dec. 1989

Popova, Eugenia; Stankov, Angel; Aroyo, Izi; Dragostinov, Todor; Mantchev, Nikola; Nedyalkov, Emanuil; and Zhivkov, Plamen Transmission of Additional Information in the Active Television Lines, 95:814, Aug.

1086

Powell, Steven J.; Norris, J. C.; and Spakowsky, S. W., Eastman Color High-Speed Daylight Negative Films 5297 and 7297, 96:679, July 1987

-----, and Reinking, Frank R., Eastman Color High-Speed Negative Film 7292, 95:870,

Sept. 1986

; Sehlin, Richard C.; Bogdanowicz, Mitchell J.; and Zavada, Roland J., Interface of Motion-Picture Films and Video, 95:614, June 1986

—, and Kennel, Glenn L., Noise in Film-to-Video Transfers, 96:16, Jan. 1987

Powers, Kerns H., and Baron, Stanley N., Common Image Format for International Television Program Exchange, 99:438, June 1990

Prezzano, Wilbur J., Changing Times. . . Unchanging Values, address, 95:106, Jan. 1986 Putnam, Leland K.; Lucht, Phil; and Davis, Jeff,

A High-Speed Architecture for Image Computation, 97:464, June 1988

Pytlak, John; Kennel, Glenn L.; Sehlin, Richard; and Uhlig, Ronald, Major Motion-Picture Production Standards, 97:985, Dec. 1988

#### Q

Quinn, Stanley, and Kaiser, Paul, Production and Post-Production Experience with ½-in. Camera Recorders in the CBC, 96:28, Jan. 1987

#### R

Rabinowitz, David; Schmerler, David; Brandel, Robert; Eyring, Ken; Hoffman, Shel; Hopkins, Bryan; and Wolzien, Thomas, Component Compositing in Post-Production, 95:884, Sept. 1986

Ram, A. Tulsi, and McCrea, James L., Stability of Processed Cellulose Ester Photographic

Films, 97:474, June 1988

Rao, N. V., and Franken, Ad, Television Camera Tubes and Solid-State Sensors for Broadcast Applications, 95:799, Aug. 1986

Redmond, Sir James, address, 130th Technical Conference, 98:71, Jan. 1989

Reinking, Frank R., and Powell, Steven J., Eastman Color High-Speed Negative Film 7292, 95:870, Sept. 1986

Remley, Frederick M., The 15th Meeting of IEC TC60—Recording, Subcommittees SC60A—Audio Recording, and SC60B— Video Recording, 98:525, July 1989

Repka, Charles P., Audio Performance of Professional VTRs, 98:884, Dec. 1989

Reynolds, Don, and Keys, Lyle, Signal Distribution in Tomorrow's Television Plant, 95:1031, Oct. 1986

Richer, Mark S., and Adeyeye, Aderemi A., Development and Performance of the PBS VBI Data Delivery System, 97:470, June 1988

Robert, P.,; Lamnabhi, M.; and Lhuillier, J. J., Advanced High-Definition 50 to 60-Hz Standards Conversion, 98:420, June 1989

Roberts, Marvin; Baptista, John L.; Buttram, Darren; and Wary, John C., Modernization and Computerization of the Silver-Recovery Operation in a High-Volume Laboratory, 96:745, Aug. 1987

Robinson, Lynette, and Becker, Si, Sections and Engineering Training Seminar, 96:786, Aug. 1987

—, and Becker, Si, Sections and Engineering Training Seminar, 97:648, Aug. 1988

and Becker, Si, Sections and Engineering Training Seminar, 98:600, Aug. 1989

Rodal, D.; Ryan, D.; Brush, R.; Engberg, E.; Lemoine, M.; Magnusson, S.; Morrison, F.; and Watney, J., The Composite Digital Format and Its Applications, 96:934, Oct. 1987

Roizen, Joseph, and Faroudja, Yves, Improving NTSC to Achieve Near-RGB Performance, 96:750, Aug. 1987

—, and Faroudja, Yves, A Progress Report on Improved NTSC, 98:817, Nov. 1989

Report on IEC/TC60 Meeting, Beijing,

P. R. China, 97:27, Jan. 1988

at Broadcast Symposium and IEC Standards Meeting in Beijing, 97:37, Jan. 1988
The Technology Display at the 127th

SMPTE Technical Conference, 95:140, Jan. 1986

Rongshu, Gong; Lippman, A. B.; Monta, P.; Netravali, A. N.; Popat, A.; Sallic, H.; Shen, P.; Schreiber, William F.; Tom, A.; Adelson, E. H.; and Zangi, K., A Compatible High-Definition Television System Using the Noise-Margin Method of Hiding Enhancement Information, 98:873, Dec. 1989

Ropin, Kurt H., Designing a 65mm Motion-Picture Camera: The ARRIFLEX 765,

99:428, June 1990

Ross, Rodger J., Fellows as Partners in the SMPTE Tradition, address, 99:103, Jan. 1990

Rossi, John P., Optimizing the Encoding Process to Overcome the Major Defects of NTSC Color Pictures, 97:824, Oct. 1988

Rotthaler, Max, EBU Activity in Developing Specifications for Film and Television Camera Lenses, 95:720, July 1986

Roufs, Jacques A. J., and Westerink, Joyce H. D. M., Subjective Image Quality as a Function of Viewing Distance, Resolution, and Picture Size, 98:113, Feb. 1989

Ryan, D.; Brush, R.; Engberg, E.; Lemoine, M.; Magnusson, S.; Morrison, F.; Rodal, D.; and Watney, John, The Composite Digital Format and Its Applications, 96:934, Oct. 1987

Rzeszewski, Theodore S., and Pawelski, Robert L., Efficient Transmission of Digital Component Video, 95:889, Sept. 1986 Sabri, Shaker; Lemay, Denis; and Dubois, Eric, A Modular Digital Video Coding Architecture for Present and Advanced TV Systems, 98:504, July 1989

Sadashige, Koichi, An Overview of Solid-State Sensor Technology, 96:180, Feb. 1987

—, Transition to Digital Recording: An Emerging Trend Influencing All Analog Signal Recording Applications, 96:1073, Nov. 1987

Video Recording Formats in Transition, 98:25, Jan. 1989

Sakurai, Naoya; Kishimoto, Ryozo; and Ishikura, Akihiko, Bit-Rate Reduction in the Transmission of High-Definition Television Signals, 96:191, Feb. 1987

Salazar, Paul G., and Bernosky, Philip J., Digital Video Signal Transcoding, 99:554, July 1990

Sallic, H.; Lippman, A. B.; Monta, P.; Netravali, A. N.; Popat, A.; Rongshu, Gong; Shen, P.; Schreiber, William F.; Tom, A.; Adelson, E. H.; and Zangi, K., A Compatible High-Definition Television System Using the Noise-Margin Method of Hiding Enhancement Information, 98:873, Dec. 1989

Saltarelli, R. S. R., The Fully Computerized Studio, 98:360, May 1989

Samper, J. Phillip, The Marvelous Illusion, address, 99:83, Jan. 1990

Sanders, Mark L., Managing for Change with Paradox and Innovation, address, 96:81, Ian 1987

Sasuga, Mitsuo; Harada, Nozumu; Ide, Yuji; and Nishizawa, Tamotsu, A Three-CCD HDTV Color Camera, 99:532, July 1990

Sato, H.; Inatsu, Minoru; Kasai, Susumu; Kawamura, Toshiaki; and Tominaga, Tamotsu, A New Small-Format VTR Using an 8mm Cassette, 96:466, May 1987

Sato, Hideaki, and Yamaryo, Sadayuki, New Fujicolor Intermediate Film, 97:201, March

Schade, Otto H., Sr., Image Quality: A Comparison of Photographic and Television Systems, book reprint, 96:567, June 1987

Schäfer, Ralf, and Kauff, Peter, HDTV Colorimetry and Gamma Considering the Visibility of Noise and Quantization Errors, 96:822, Sept. 1987

Schindler, Thomas A., Acoustical Design for the Technical Building at Skywalker Ranch, Part 2: Mechanical and Electrical Acoustic Noise Control, 98:106, Feb. 1989

Schmale, Peter, Coach: A Tool for Centralized Maintenance, 95:736, July 1986

Schmerler, David; Brandel, Robert; Eyring, Ken; Hoffman, Shel; Hopkins, Bryan; Rabinowitz, David; and Wolzien, Thomas, Component Compositing in Post-Production, 95:884, Sept. 1986

Schmidt, Jon C., Applications of a Vari-Speed Processor for Film, 99:392, May 1990

Schneider, Arthur, Electronic Post-Production for Film and Videotape—An Update, 96:1189, Dec. 1987

----, HDTV: A Preview of the Future, 97:209, March 1988

—, The SMPTE Hollywood Section/USC Seminar on Electronic Post-Production for Film and Videotape, 96:692, July 1987 —, SMPTE/USC Spring Symposium on

Image Manipulation, 95:816, Aug. 1986

—, A System Generating High-Resolution
Animation to HDTV Film, 95:796, Aug.

Schou, Henning, and Case, Dominic, An Experimental Quality Control Program for Printing Archival Films, 96:1180, Dec. 1987

Schreiber, William F., Advanced Television Systems for the United States: Getting There from Here, 97:847, Oct. 1988

----; Adelson, E. H.; Lippman, A. B.; Netravali, A. N.; and Staelin, D. H., Channel-Compatible 6-MHz HDTV Distribution Systems, 98:5, Jan. 1989

; Lippman, A. B.; Monta, P.; Netravali, A. N.; Popat, A.; Rongshu, Gong; Sallic, H.; Shen, P.; Tom, A.; Adelson, E. H.; and Zangi, K., A Compatible High-Definition Television System Using the Noise-Margin Method of Hiding Enhancement Information, 98:873, Dec. 1989

\_\_\_\_\_, Improved Television Systems: NTSC and Beyond, 96:734, Aug. 1987

——, and Dubois, Eric, Improvements to NTSC by Multidimensional Filtering, 97:446, June 1988

—, and Lippmann, Andrew B., Reliable EDTV/HDTV Transmission in Low-Quality Analog Channels, 98:496, July 1989

; Adelson, E. H.; Lippman, A. B.; Netravali, A. N.; and Neuman, W. R., Single-Channel Backward-Compatible EDTV Systems, 98:14, Jan. 1989

Schuler, Chester L., The Montage: A New Approach to Editing Feature Films, 95:811,

Aug. 1986

Schwenker, Ronald; Anderson, Walter; Gray, Joel E.; Harshbarger, John H.; Lisk, Kenneth G.; and Uzenoff, Robert A., Acceptance and Use of the SMPTE Medical Diagnostic Imaging Test Pattern for Television Monitors and Hard-Copy Recording Cameras, 99:1001, Dec. 1990

Schwind, David R., Acoustical Design for the Technical Building at Skywalker Ranch, Part I: Sound Isolation and Room Acoustics, 98:100, Feb. 1989

Scoggins, David H., and Gardner, Larry J., A Closed-Loop Digital Video Editing System, 99:634, Aug. 1990

Scorer, Paul, The Equalization of Channel Noise Visibility in Television, 98:563, Aug. 1989

Scott, Stephen, Getting More out of User Bits, 99:997, Dec. 1990

Sehlin, Richard C.; Bogdanowicz, Mitchell J.; Powell, Steven J.; and Zavada, Roland J., Interface of Motion-Picture Films and Video, 95:614, June 1986

; Pytlak, John; Kennel, Glenn L.; and Uhlig, Ronald, Major Motion-Picture Production Standards, 97:985, Dec. 1988

Seo, Kenzo; Iwadate, Yuichi; Kubota, Keiichi; and Matsumoto, Mutsuo, International Transmission of HDTV Signals, 99:145, Feb. 1990

Seo, Taijiro, and Kuwata, Takeshi, A Portable Prompter System Equipped with a Liquid Crystal Display, 99:200, March 1990

Sharman, R.; Bernstein, L.; Erhardt, H.; Godden, R.; Kennel, Glenn L.; Kessler, D.; Kurtz, A.; Lees, R.; Loveridge, J.; and Moore, L., High-Performance CCD Telecine for HDTV, 99:837, Oct. 1990

Sharrock, Michael P., and Moore, Arthur R., Magnetic Media for the Digital Television Tape Recorder, 95:1004, Oct. 1986

Shen, P.; Lippman, A. B.; Monta, P.; Netravali, A. N.; Popat, A.; Rongshu, Gong; Sallic, H.; Schreiber, William F.; Tom, A.; Adelson, E. H.; and Zangi, K., A Compatible High-Definition Television System Using the Noise-Margin Method of Hiding Enhancement Information, 98:873, Dec. 1989 Sherlock, Michael J., address, 20th Annual Television Conference, 95:480, April 1986

New Frontiers: The Next 15 Years, 96:1095, Nov. 1987

Shidara, K.; Kurashige, M.; Tanioka, K.; and Egami, N., Super-Sensitive HDTV Camera Tube with the Newly Developed HARP Target, 97:538, July 1988

Shimizu, Mikio; Dienhart, Richard; Ikeda, Sadayuki; Kamata, Takao; Kohno, Akiyoshi; and Yamamoto, Setsuo, Recent Development of a Broadcast-Quality CCD Camera,

95:1158, Nov. 1986

Shinkawa, Keirou; Matsuura, Shigeo; Nakagawa, Isao; Noda, Tsutomu; and Shirosugi, Takatoshi, A Digital Audio Transmission System Using Quadrature Modulation of the NTSC Television Carrier, 99:829, Oct. 1990

Shirata, K.; Okui, M.; Murakami, K.; and Ohzeki, K., Locus Display of Moving Sports

Players, 96:667, July 1987 Shirk, Thomas R., Real-Time Video Assembly

Involving Transitions and Keys, 95:649, June 1986

- Shirosugi, Takatoshi; Matsuura, Shigeo; Nakagawa, Isao; Noda, Tsutomu; and Shinkawa, Keirou, A Digital Audio Transmission System Using Quadrature Modulation of the NTSC Television Carrier, 99:829, Oct. 1990
- Slusser, Daniel E., address, 129th Technical Conference, 97:81, Jan. 1988
- Smith, Alvy Ray, The Video Computer: Image Computing in the Studio, 97:207, March 1988
- Smith, Terrence R.; Isnardi, Michael A.; and Dieterich, Charles B., Advanced Compatible Television: A Progress Report, 98:484, July

Soluk, George, Understanding Film Dynamics on Continuous-Motion Telecines, 95:310, March 1986

Spakowsky, S. W.; Norris, J. C.; and Powell, Steven J., Eastman Color High-Speed Daylight Negative Films 5297 and 7297, 96:679, July 1987

Spencer, David R., The Use of 1,1,1-Trichloroethane Chlorinated Solvent for Cleaning Motion-Picture Film, 95:733, July 1986

Spring, L. John, Jr., 1986 Progress Report: Motion Pictures, 96:332, April 1987

Staelin, D. H.; Adelson, E. H.; Lippman, A. B.; Netravali, A. N.; and Schreiber, William F., Channel-Compatible 6-MHz HDTV Distribution Systems, 98:5, Jan. 1989

Staiger, Janet, Standardization and Independence: The Founding Objectives of the

SMPTE, 96:532, June 1987

- Stankov, Angel; Aroyo, Izi; Dragostinov, Todor; Mantchev, Nikola; Nedyalkov, Emanuil; Popova, Eugenia; and Zhivkov, Plamen, Transmission of Additional Information in the Active Television Lines, 95:814, Aug. 1986
- Stanton, Julia A., and Stanton, Michael J., Bibliography: Video Production Technologies, 96:762, Aug. 1987
- and Stanton, Michael J., Video Recording: A History, 96:253, March 1987
- Stanton, Michael J., and Stanton, Julia A., Bibliography: Video Production Technologies, 96:762, Aug. 1987
- and Stanton, Julia A., Video Recording: A History, 96:253, March 1987
- Stein, Charles S., and Hitchner, Lewis E., The Multiresolution Dissolve, 97:977, Dec. 1988
- Stevens, E. G.; Chang, W. C.; Nichols, D. N.; and Tredwell, T. J., High-Density Solid-State Image Sensor, 96:1186, Dec. 1987

- Strader, Ralph K., Workstation Development: A Plan for the Future at NBC, 98:835, Nov.
- Strain, Richard A., The Shape of Screens to Come, 97:560, July 1988
- Streeter, Richard G., Acceptance Speech by SMPTE Engineering Vice-President [Emmy Award], 96:1195, Dec. 1987
- Engineering Report, 127th Technical Conference, 95:104, Jan. 1986
- Engineering Contribution to the 1985 Progress Report, 95:407, April 1986
- , Is Standardization Obsolete?, address, 96:79, Jan. 1987
- , 1986 Progress Report: Engineering Report, 96:327, April 1987
- 1987 Progress Report: Engineering Report, 97:263, April 1988
- address, 20th Television Conference, 95:477, April 1986
- , An Update on the Television and Film Aspects of HDTV, 96:1108, Nov. 1987
- What Is a Standard?, address, 97:79. Jan. 1988
- Strolle, Christopher H., Cooperative Processing for Improved NTSC Chrominance/Luminance Separation, 95: 782, Aug. 1986

Stumpf, Richard J., A Film Studio Looks at HDTV, 96:247, March 1987

Suda, M.; Carr, S.; Kaminaga, K.; and Murakami, Y., Time Compression/Expansion with D-2 Composite Digital Recording, 99:381, May 1990

Sueoka, Takashi; Matsuzuru, Toshinari; and Monjo, Yoshio, A New Technique to Improve Video Stability by Digital Processing,

97:908, Nov. 1988

Sugahara, Masayuki; Andoh, Fumihiko; Fujita, Yoshihiro; Fujiwara, Masao; and Mitani, Kohji, A New High-Speed Camera System for Broadcast Use-The Action Analyzer, 99:820, Oct. 1990

Sugaya, Hiroshi, The Videotape Recorder: Its Evolution and the Present State of the Art of VTR Technology, 95:301, March 1986

- Sugimori, Yoshio; Araki, Yosai; and Kimata, Yoshihide, Experiments with an Enhanced-Quality NTSC-Compatible TV System, 97:970, Dec. 1988
- Symes, Peter D., Multilevel Compositing in the Digital Domain, 97:613, Aug. 1988
- Real-Time Multilevel Digital Compositing: Quality Issues, 98:376, May 1989 , Ten-Bit Processing in an 8-Bit Environ-

ment, 98:444, June 1989

Szabo, William, Guidelines for the Design of Effective Cine Theaters (Part I of a Proposed SMPTE Engineering Guideline), 95:30, Jan. 1986

Takahashi, S.; Nakamura, T.; Fujimaki, Y.; Isesaka, K.; Kobyashi, K.; and Leader, S., The Application of High-Coercivity Cobalt Iron Oxide Tape for Digital Video Recording, 98:168, March 1989

Takenoshita, S.; Idenuma, H.; Kuma, T.; Murakami, Y.; and Yoshitake, T., The Motorcycle Radio-Camera System, 97:130, Feb. 1988

Tamura, E.; Iwasaki, T.; and Thorpe, Laurence J., New Advances in CCD Imaging, 97:378, May 1988

, and Thorpe, Laurence J., A New 510-Element CCD Camcorder for ENG, 96:518, June 1987 Tamura, Hisao; Niikura, Teruo; Iwata, Akira; and Monjo, Yoshio, A New Method of Video Synthesis Developed by NHK, 95:702, July

Taniguchi, M.; Asada, R.; Kiguchi, T.; Kitamura, Y.; Miyakawa, Y.; Nishikawa, S.; Toyoda, H.; and Watanabe, M., Broadcast-Quality TV Camera with Digital Signal Processor, 99:727, Sept. 1990

Tanioka, Kenkichi; Kumada, Junji; and Okano, Fumio, The HARP High-Sensitivity Handheld HDTV Camera, 99:612, Aug. 1990

; Egami, N.; Ehata, S.; Kurashige, M.; Okazaki, S.; Oku, K.; and Yamagishi, T., High-Sensitivity HDTV Camera Tube with a HARP Target, 99:723, Sept. 1990

; Egami, N.; Kurashige, M.; and Shidara, K., Super-Sensitive HDTV Camera Tube with the Newly Developed HARP Target,

97:538, July 1988

Teitelbaum Harry, and Levine, Mark, The HFC Fully Automated Proofing Printer, 97:139, Feb. 1988

-; Arbeeny, Al; and Levine, Mark, The 300D Digital Video Color Film Analyzer: A Logical Use of the Best of Today's Technologies, 99:1008, Dec. 1990

Thomas, Graham A., HDTV Bandwidth Reduction by Adaptive Subsampling and Motion-Compensation DATV Techniques, 96:460, May 1987

Motion Estimation and Its Application to HDTV Transmission and Up-Conversion Using DATV, 99:987, Dec. 1990

Thomas, Robert, and Berry, Max, New Technology and the Broadcaster, 96:971, Oct. 1987

Thomas, Robert G., SMPTE Study Group on New Magnetic Media: Report on Activities and Status, October 1984, 95:1242, Dec.

Thorpe Laurence, J., The HDC-300-A Second-Generation HDTV Camera, 99:364, May 1990

; Tsujikawa, Kazunobu; and Yoshinaka, Tadaaki, HDTV Digital VTR, 98:738, Oct. 1989

; Kubota, Tatsuya; and Matsumoto, Kunio, An HDTV Downconverter for Post-Production, 99:124, Feb. 1990

and Ozaki, Yoshio, HDTV Electron Beam Recording, 97:833, Oct. 1988

and Hanabusa, T., If Progressive Scanning Is So Good, How Bad Is Interlace?. 99:972, Dec. 1990

-; Chikuma, Takashi; and Miura, Hideki, Large-Screen HDTV Monitor Development, 99:620, Aug. 1990

; Tamura, E.; and Iwasaki, T., New Advances in CCD Imaging, 97:378, May 1988 , and Tamura, E., A New 510-Element CCD Camcorder for ENG, 96:518, June 1987

, Yasukouchi, Y.; and Ogino, K., New High-Performance Portable Camera. 97:621, Aug. 1988

Tichit, Bernard; Lacotte, Jean Pierre; and Tonge, Gary, Progressive Scanning: An EDTV Gateway to HDTV, 99:824, Oct. 1990

Tienkamp, Engbert, and Van Roessel, Frederik J., The Computer as a Camera-Operation and Image-Quality Manager, 96:1079, Nov. 1987

Tom, A.; Shen, P.; Lippman, A. B.; Monta, P.; Netravali, A. N.; Popat, A.; Rongshu, Gong; Sallic, H.; Schreiber, William F.; Adelson, E. H.; and Zangi, K., A Compatible High-Definition Television System Using the Noise-Margin Method of Hiding Enhancement Information, 98:873, Dec. 1989

Tominaga, Tamotsu; Sato, H.; Inatsu, Minoru; Kasai, Susumu; and Kawamura, Toshiaki, A New Small-Format VTR Using an 8mm Cassette, 96:466, May 1987

; Kirino, Toru; Ogihara, Hirotomo; Inatsu, Minoru; Kawamura, Toshiaki; and Kasai, Susumu, Progress Report on Recent Developments on One Manufacturer's 1/4-in. ENG Recorder, 95:20, Jan. 1986

Tonge, Gary J.; Lacotte, Jean Pierre; and Tichit, Bernard, Progressive Scanning: An EDTV Gateway to HDTV, 99:824, Oct.

1990

——, and Forrest, John R., Some European Perspectives on HDTV, 98:868, Dec. 1989 Toyama, Tateo; Ohtsuka, Yoshimichi; Goushi, Seiichi; Hioki, Toshiaki; Ishii, Yasuhiro; Izumi, Yoshinori; Morita, Yoshihiro; Ninomiya, Yuichi; and Ohta, Osamu, Optical Videodisc for High-Definition Television by the MUSE. 95:25. Jan. 1986

Toyoda, H.; Asada, R.; Kiguchi, T.; Kitamura, Y.; Miyakawa, Y.; Nishikawa, S.; Taniguchi, M.; and Watanabe, M., Broadcast-Quality TV Camera with Digital Signal Processor,

99:727, Sept. 1990

Tredwell, T. J.; Stevens, E. G.; Chang, W. C.; and Nichols, D. N., High-Density Solid-State Image Sensor, 96:1186, Dec. 1987

Tsujikawa, Kazunobu; Thorpe, Laurence J.; and Yoshinaka, Tadaaki, HDTV Digital VTR, 98:738, Oct. 1989

#### U

Ueno, Takafumi; Finger, Robert A.; Nagai, Kiyotaka; Nakajima, Yasushi; and Okamasa, Makoto, A Professional DAT System, 99:542. July 1990

Uhlig, Ronald; Pytlak, John; Kennel, Glenn L.; and Sehlin, Richard, Major Motion-Picture Production Standards, 97:985, Dec. 1988

Umemoto, Masuo; Kawamura, Toshiaki; and Eto, Yoshizumi, Considerations for Improvement of an HDTV Digital VTR, 96:177, Feb. 1987

—; Nagahara, Shusaku; Eto, Yoshizumi; and Mita, Seiichi, An Experimental Digital VTR for HDTV, 95:215, Feb. 1986

Underwood, Ed M., Broadcast-Quality Television 45 Mbit/sec (DS3) Encoding Algorithm, 97:678, Sept. 1988

Urata, Yukihide; Noguchi, Kozo; and Murai, Koichi, Fujicolor Negative Films—F-Series,

98:830, Nov. 1989

Uwabata, H.; Abe, Y.; Inoue, S.; Kageyama, S.; and Yasumoto, Y., A 6-MHz NTSC-Compatible Widescreen Television System with Pan-and-Scan Capability, 99:639, Aug. 1990

Uzenoff, Robert A.; Anderson, Walter; Gray, Joel E.; Harshbarger, John H.; Lisk, Kenneth G.; and Schwenker, Ronald, Acceptance and Use of the SMPTE Medical Diagnostic Imaging Test Pattern for Television Monitors and Hard-Copy Recording Cameras, 99:1001, Dec. 1990

#### ٧

Vallee, Jacques; Favreau, Michel; and Artigalas, Max, Digital Production Switchers, 95:295, March 1986

Van Roessel, Frederik J., and Tienkamp, Eng-

bert, The Computer as a Camera-Operation and Image-Quality Manager, 96:1079, Nov. 1987

Vavasour, Eric J.; Newport, Derek J.; and Dalton, Chris J., Comparative Assessment of Video Camera Color Reproduction Using Matchman Mk II, 99:884, Nov. 1990

Venkatesan, P. S.; Austin, M. D.; Forbes, C. G.; Natarajan, P. S.; and Orost, J., Transmission of HDTV and Audio Signals over One Single-Mode Fiber, 98:651, Sept. 1989

Verbrugge, Joost; Piepers, Martin; and Lietaert, Norbert, Digital Intelligence in Professional Broadcast Monitors, 97:484, June 1988

—, Monitoring Video Pictures in Different Formats and Standards, 98:880, Dec. 1989

#### w

Wary, John C.; Roberts, Marvin; Baptista, John L.; and Buttram, Darren, Modernization and Computerization of the Silver-Recovery Operation in a High-Volume Laboratory, 96:745, Aug. 1987

Watanabe, M.; Asada, R.; Kiguchi, T.; Kitamura, Y.; Miyakawa, Y.; Nishikawa, S.; Taniguchi, M.; and Toyoda, H., Broadcast-Quality TV Camera with Digital Signal

Processor, 99:727, Sept. 1990

Watney, John P.; Ryan, D.; Brush, R.; Engberg, E.; Lemoine, M.; Magnusson, S.; Morrison, E. Fraser; and Rodal, D., The Composite Digital Format and Its Applications, 96:934, Oct. 1987

Picture-Quality Criteria, Error Statistics, and Error Correction for the D-1 Format DVTR, 95:1222, Dec. 1986

—, Technical Challenges for the Development of a New Small-Format DVTR, 97:966, Dec. 1988

Webster, Ed, and James, Ron, Computer-Aided Design in Facilities and System Integration, 98:378, May 1989

West, Mark; Edlund, Richard; Grafton, David; and Wilcox, Bob, The Zoom Aerial 65mm Optical Printer (ZAP) System, 96:674, July 1987

West-Cyr, Janet, Montreal/Quebec, Ottawa, Rochester, and Toronto Sections Mini-Conference, 97:568, July 1988

Westerink, Joyce H. D. M., and Roufs, Jacques A. J., Subjective Image Quality as a Function of Viewing Distance, Resolution, and Picture Size, 98:113, Feb. 1989

Wilcox, Bob; West, Mark; Edlund, Richard; and Grafton, David, The Zoom Aerial 65mm Optical Printer (ZAP) System, 96:674, July 1987

Wiles, Syd; Gasoi, Frederick; and Zwaneveld, Ed, Digital Optical Sound on 35mm Motion-Picture Film, 99:899, Nov. 1990

Wilkinson, James H., A Review of the Signal Format Specification for the 4:2:2 Component Digital VTR, 96:1166, Dec. 1987

—, The SMPTE Type D-1 Digital Television Tape Recorder—Error Control, 95:1144, Nov. 1986

Wilson, Robin, Potential for Digital and Optical Video in Broadcast Facility Distribution Systems, 97:616, Aug. 1988

Wise, Robert E., The Science of Motion Pictures, address, 95:117, Jan. 1988

Wolf, Irving, and Neuman, Thomas, Recording at High Volumetric Packing Densities, 98:515, July 1989

Wolvington, James W., Digital Audio Post-

Production: Sound Editing Transformed, 96:34, Jan. 1987

Wolzien, Thomas; Schmerler, David; Brandel, Robert; Eyring, Ken; Hoffman, Shel; Hopkins, Bryan; and Rabinowitz, David, Component Compositing in Post-Production, 95:884, Sept. 1986

Wonfor, Peter J., and Lacoste, Jean-Pierre, The CCD Camera for Field Production Applications. 97:817, Oct. 1988

Wood, John H., and MacClymont, Donald R., New Developments in Electronic Character Generation, 95:557, May 1986

Wyvill, Brian; McPheeters, Craig; and Garbutt, Rick, University of Calgary 3-D Computer Animation System, 95:629, June 1986

#### Y

Yagi, Nobuyuki; Murakami, Keinosuke; and Enami, Kazumasa, A Proposed Universal Signal-Processing System, 96:527, June 1987

; Murakami, Keinosuke; and Enami, Kazumasa, Real-Time Video Signal Processor,

96:1158, Dec. 1987

Yamada, Mitsuho, and Fukuda, Tadahiko, An Improved Sight-Line Displacement Analyzer and Its Application to TV Program Production, 99:16, Jan. 1990

—, and Fukuda, Tadahiko, Quantitative Evaluation of Eye Movements as Judged by Sight-Line Displacements, 95:1230, Dec.

1986

Yamagishi, T.; Ehata, S.; Kurashige, M.; Okazaki, S.; Oku, K.; Tanioka, K.; and Egami, N., High-Sensitivity HDTV Camera Tube with a HARP Target, 99:723, Sept. 1990

Yamamoto, Hideo; Murakami, Hitomi; and Matsumoto, Shuichi, Coding Performance of Motion-Compensated Interframe, Interfield, and Intrafield Adaptive Prediction Coding for Composite and Component TV Signals, 95:542, May 1986

Yamamoto, Setsuo; Shimizu, Mikio; Dienhart, Richard; Ikeda, Sadayuki; Kamata, Takao; and Kohno, Akiyoshi, Recent Development of a Broadcast-Quality CCD Camera, 95:1158, Nov. 1986

Yamaryo, Sadayuki, and Sato, Hideaki, New Fujicolor Intermediate Film, 97:201, March

1988

Yasuda, Minoru, and Isono, Haruo, Flicker-Free Field-Sequential Stereoscopic TV System and Measurement of Human Depth Perception, 99:136, Feb. 1990

Yasukouchi, Y.; Thorpe, Laurence J.; and Ogino, K., New High-Performance Portable

Camera, 97:621, Aug. 1988

Yasumoto, Y.; Abe, Y.; Inoue, S.; Kageyama, S.; and Uwabata, H., A 6-MHz NTSC-Compatible Widescreen Television System with Pan-and-Scan Capability, 99:639, Aug. 1990

Yokata, H.; Kaku, N.; Niguchi, Y.; Ogiro, K.; Ono, H.; Ozaki, S.; Ozawa, T.; and Yokoo, S., Mechanical Considerations in the Design of a Composite Digital VTR, 98:568, Aug. 1989

Yokoo, S.; Yokata, H.; Kaku, N.; Niguchi, Y.; Ogiro, K.; Ono, H.; Ozaki, S.; and Ozawa, T., Mechanical Considerations in the Design of a Composite Digital VTR, 98:568, Aug. 1989

Yokoyama, Katsuya; Nomura, Tatsuo; Kimoto, Kiyoshi; and Nakagawa, Shozo, High-Quality Magneto-Optic Disk Video Recording, 96:1062, Nov. 1987

- 99:739, Sept. 1990
- Yoshinaka, Tadaaki; Tsujikawa, Kazunobu; and Thorpe, Laurence J., HDTV Digital VTR, 98:738, Oct. 1989
- Yoshitake, T.; Idenuma, H.; Kuma, T.; Murakami, Y .; and Takenoshita, S .; The Motorcycle Radio-Camera System, 97:130, Feb. 1988
- Young, Irwin W., Film/Electronic Interface. 96:784, Aug. 1987
- , Meeting the Challenge of New Technology, address, 96:980, Oct. 1987
- , 1986 Progress Report: Educational, 96:389, April 1987
- , 1987 Progress Report: Educational, 97:324, April 1988
- 1988 Progress Report: Educational, 98:301, April 1988
- , 1989 Progress Report: Educational, 99:318, April 1990

Zahn, Heinrich L., Friction-Its Influence in Rotary Magnetic Tape Recorders, 98:520, July 1989

Z

- Zangi, K.; Lippman, A. B.; Monta, P.; Netravali, A. N.; Popat, A.; Rongshu, Gong; Sallic, H.; Shen, P.; Schreiber, William F.; Tom, A.; and Adelson, E. H., A Compatible High-Definition Television System Using the Noise-Margin Method of Hiding Enhancement Information, 98:873, Dec. 1989
- Zavada, Roland J., Challenges to the Development of a Standardized Professional Studio Color-Picture Monitor, 97:703, Sept. 1988
- ; Sehlin, Richard C.; Bogdanowicz, Mitchell J.; and Powell, Steven J.; Interface of Motion-Picture Films and Video, 95:614, June 1986
- , Is SMPTE's Future Along the "Z" Axis?, address, 96:99, Jan. 1987

- Zhivkov, Plamen; Stankov, Angel; Aroyo, Izi; Dragostinov, Todor; Mantchev, Nikola; Nedyalkov, Emanuil; and Popova, Eugenia, Transmission of Additional Information in the Active Television Lines, 95:814, Aug. 1986
- Zubrzycki, John; Oliphant, Andrew; and Marsden, Richard, An Optical Routing System for Tomorrow's Television Studio Centers, 96:660, July 1987
- Zwaneveld, Ed; Azerad, Michael S.; Dabby, Joseph; and Pley, John, The Brain's: A Multi-Axis, Location/Studio Camera/Subject, Robotic Motion-Control System, 98:575, Aug. 1989
- Gasoi, Frederick; and Wiles, Syd, Digital Optical Sound on 35mm Motion-Picture Film, 99:899, Nov. 1990
- -; Jaslowitz, Morris; and D'Silva, Terry, Sound Genie M-An Automated Digital Sound Effects Library System, 99:386, May 1990







